

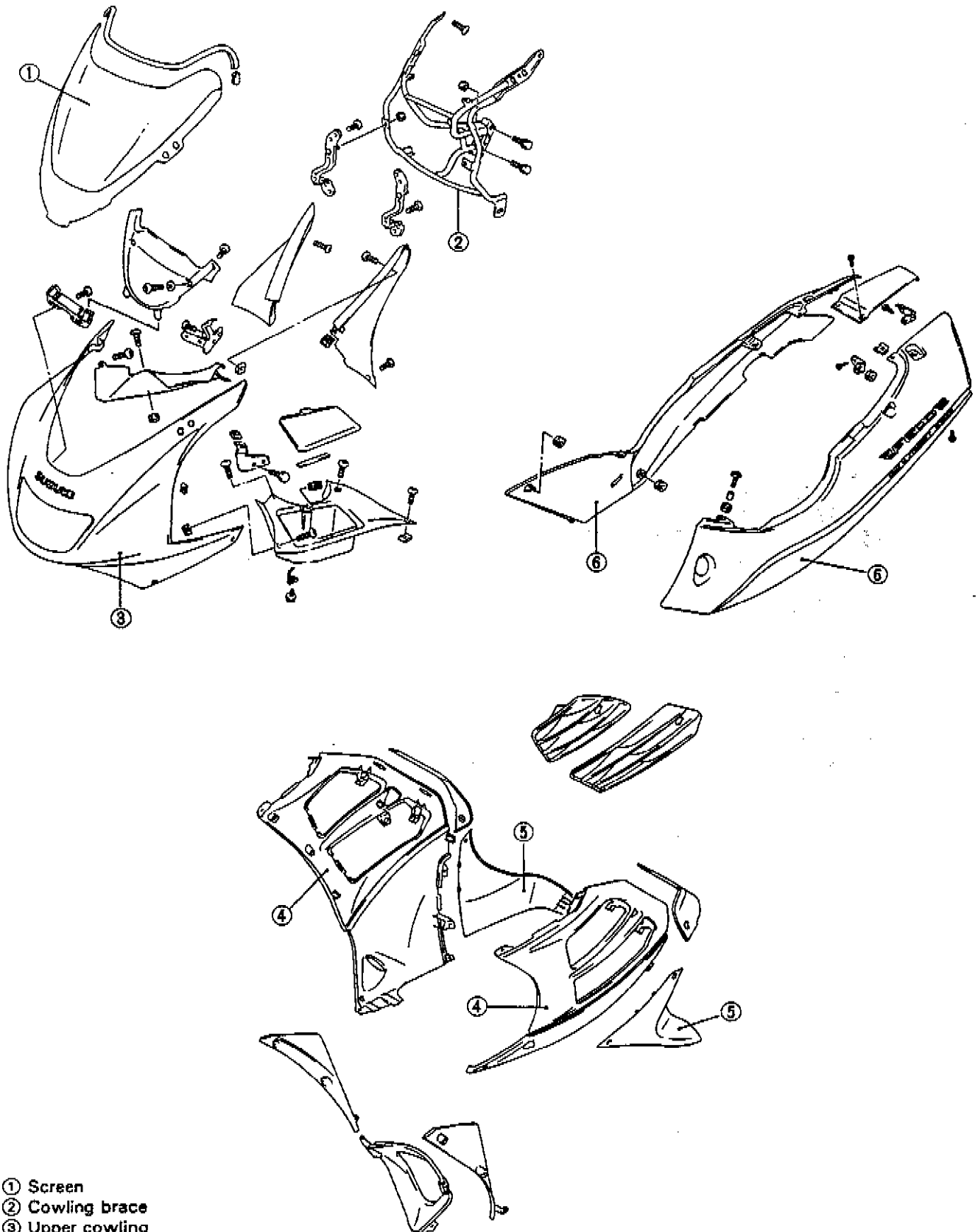
CHASSIS

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7-1 CHASSIS

COWLING AND FRAME COVER

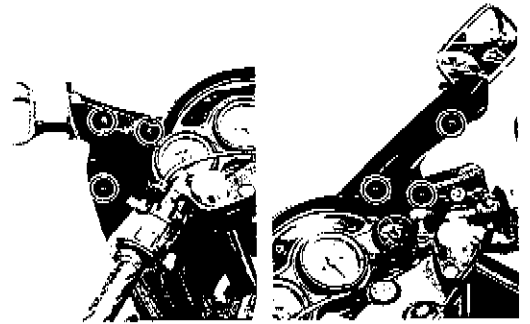


- ① Screen
- ② Cowling brace
- ③ Upper cowling
- ④ Lower cowling
- ⑤ Lower cowling of rear
- ⑥ Frame cover

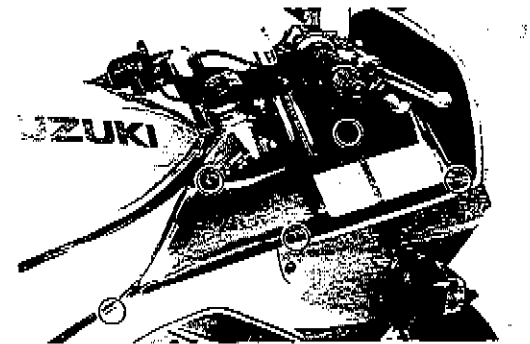
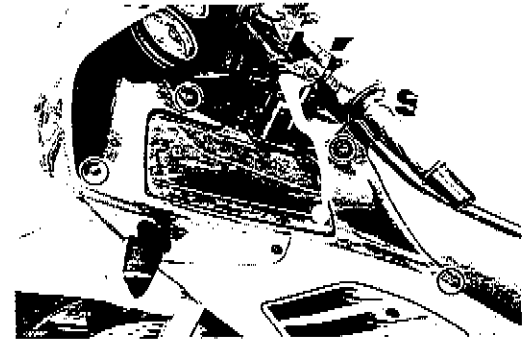
REMOVAL

COWLING ASSEMBLY AND COWLING BRACE

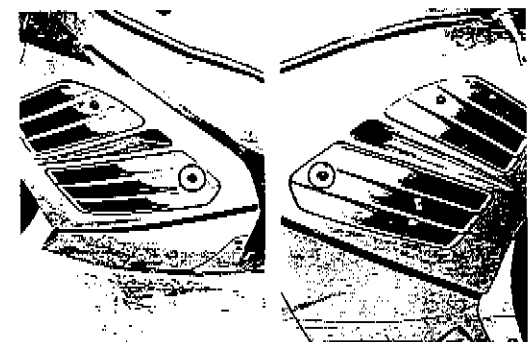
1. Remove the cowling upper panels of front by removing the screws, left and right.



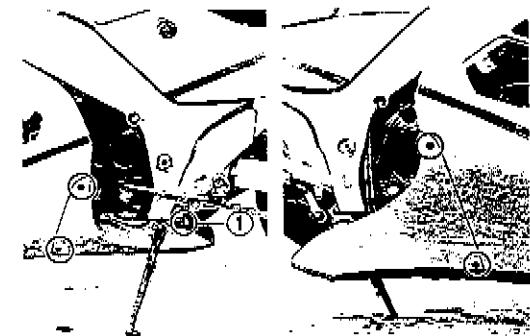
2. Remove the cowling upper panels of rear by removing the screws, left and right.



3. Remove the service lids on the lower cowling by removing the screws, left and right.

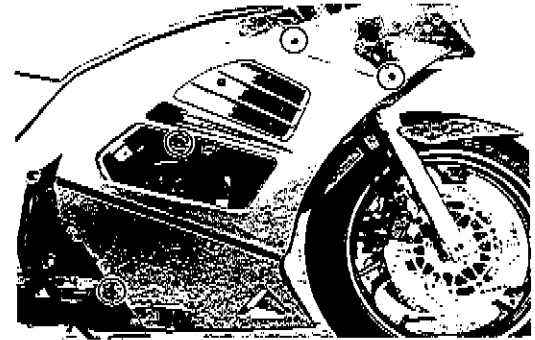
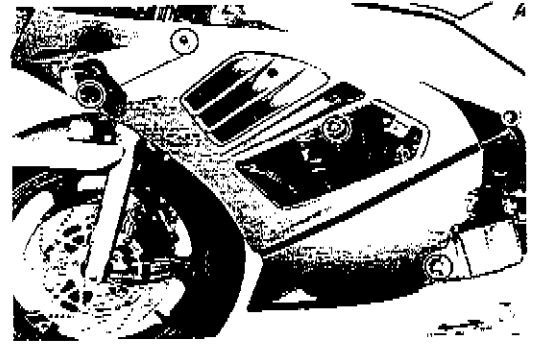


4. Remove the lower cowling of rear by removing the screws and nut ①.

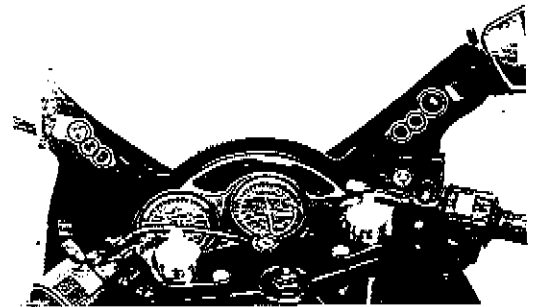


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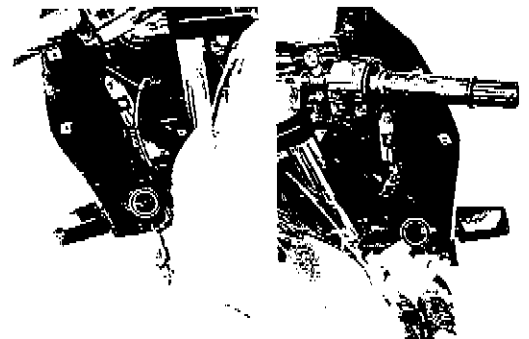
5. Remove the lower cowling assembly by removing the screws and bolts, left and right.



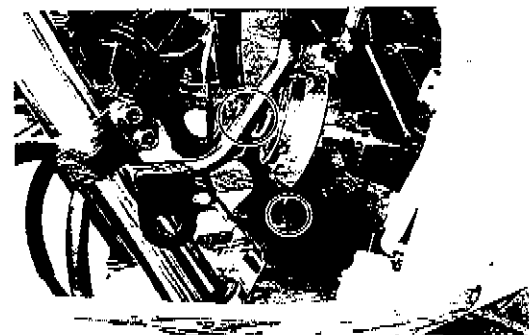
6. Remove the rear-view mirrors by removing the bolts, left and right.



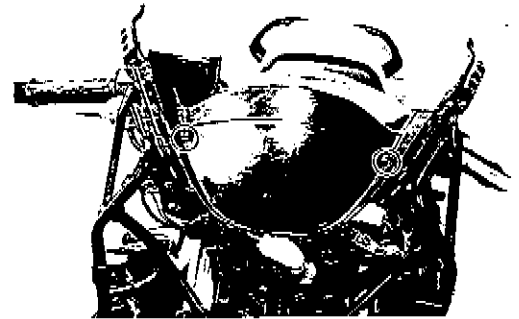
7. Remove the front turn signal lights after disconnecting the their lead wire couplers, left and right.



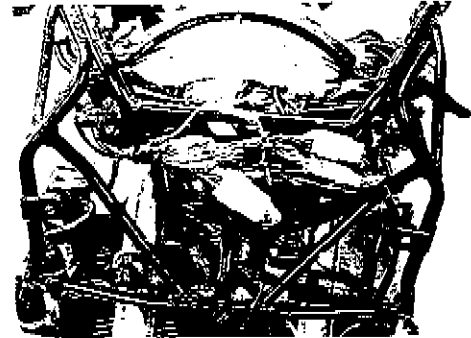
8. Disconnect the headlight and position light lead wire couplers.
9. Remove the upper cowling along with the screen and headlight.



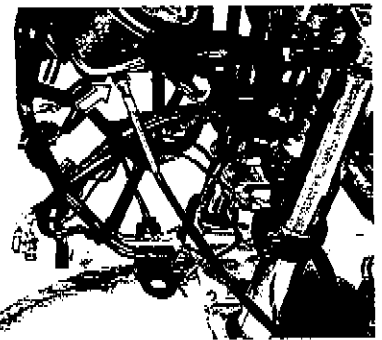
10. Remove the center panel.



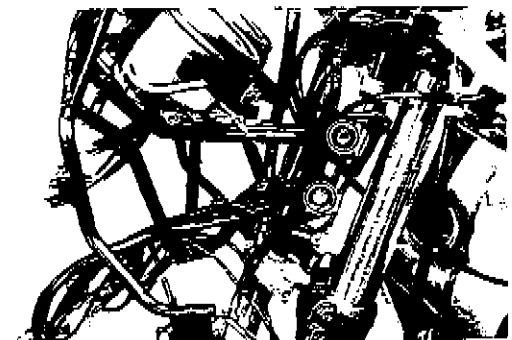
11. Disconnect the various lead wire couplers.



12. Disconnect the speedometer cable.



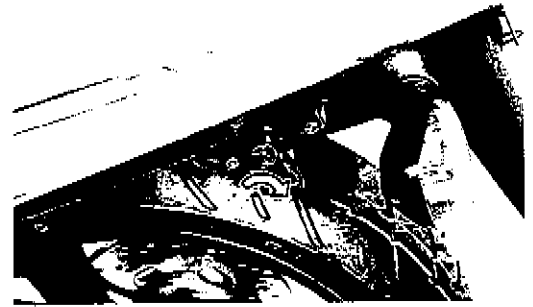
13. Remove the cowling brace along with the combination meter by removing the bolts and nut.



7-5 CHASSIS

FRAME COVER ASSEMBLY

1. Remove the front seat with the ignition key.

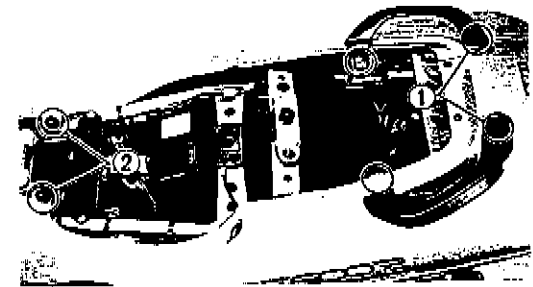


2. Remove the rear seat with the seat lock lever.

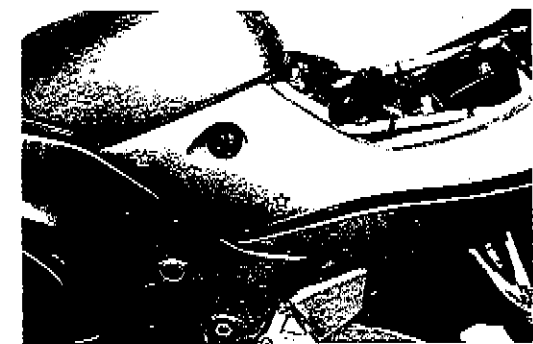


3. Remove the pillion rider grabber mounting bolts after removing the caps ① .

4. Remove the frame cover mounting screws ② .



5. Extract the hooked parts of frame cover, left and right.



☆: hooked part

6. Remove the frame cover after disconnecting the tail/brake light lead wire coupler.

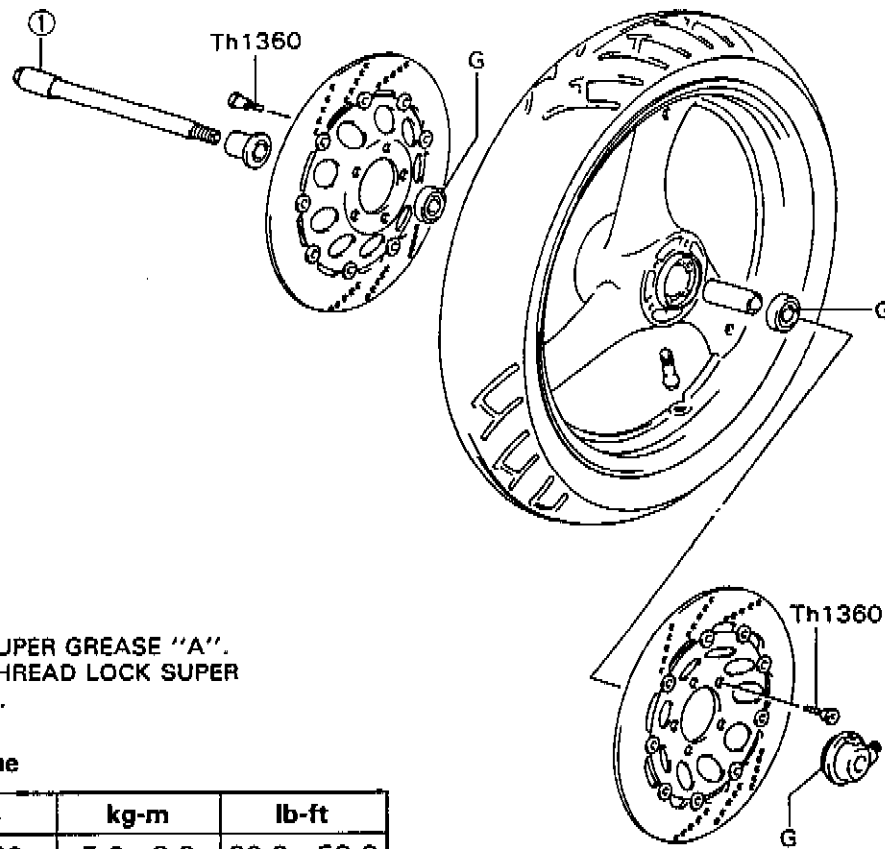


REMOUNTING

Remount the cowl and frame cover in the reverse order of its removal. (Refer to pages 8-23, 8-24 and 8-25.)

7-7 CHASSIS

FRONT WHEEL



G : Apply SUPER GREASE "A".
Th1360: Apply THREAD LOCK SUPER
"1360".

Tightening torque

ITEM	N·m	kg·m	lb·ft
①	50-80	5.0-8.0	36.0-58.0
②	18-28	1.8-2.8	13.0-20.0

REMOVAL

1. Remove the lower cowling. (Refer to page 7-2.)
2. Support the motorcycle with a jack or a wooden block.
3. Loosen the axle pinch bolts.
4. Loosen the axle shaft.



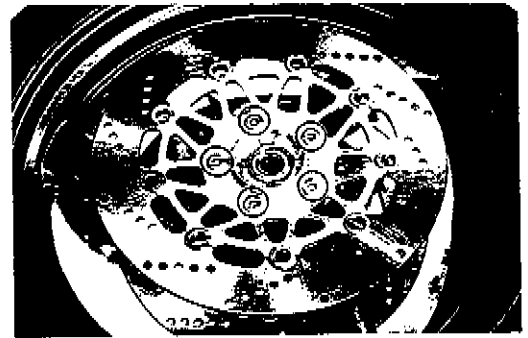
5. Remove the brake calipers, left and right.
6. Remove the axle shaft and front wheel.

CAUTION:

- * Do not operate the brake lever while dismantling the brake calipers.
- * Hang the brake calipers on the motorcycle frame with a string etc., taking care not to bend the brake hose.



7. Remove the both brake discs off the front wheel by removing the mounting bolts.



INSPECTION AND DISASSEMBLY

SPEEDOMETER GEARBOX DUST SEAL

Inspect the lip of dust seal for damage.

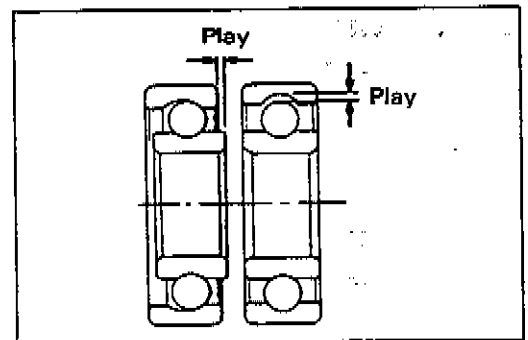
TIRE

Refer to page 7-12.



WHEEL BEARINGS

Inspect the play of the wheel bearings by hand while they are in the wheel. Rotate the inner race by hand to inspect for abnormal noise and smooth rotation. Replace the bearing if there is anything unusual.



AXLE SHAFT

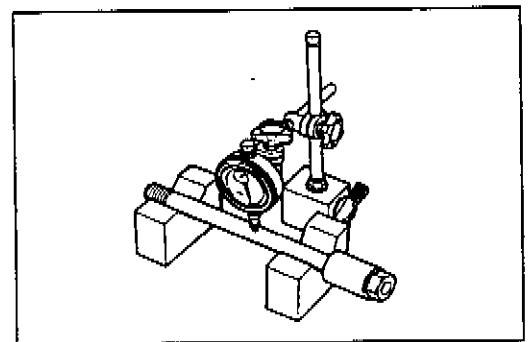
Using a dial gauge, check the axle shaft for runout and replace it if the runout exceeds the limit.

09900-20606: Dial gauge (1/100)

09900-20701: Magnetic stand

09900-21304: V-block set (100 mm)

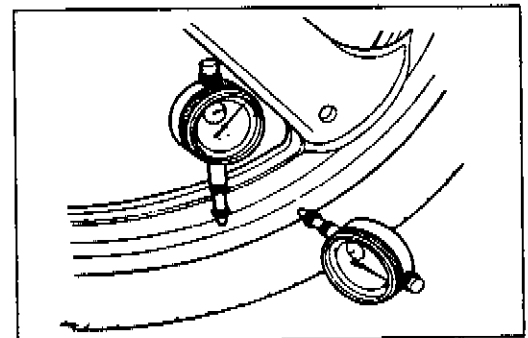
Service Limit: 0.25 mm (0.010 in)



WHEEL

Make sure that the wheel runout checked as shown does not exceed the service limit. An excessive runout is usually due to worn or loosen wheel bearings and can be reduced by replacing the bearings. If bearing replacement fails to reduce the runout, replace the wheel.

Service Limit (Axial and Radial): 2.0 mm (0.08 in)

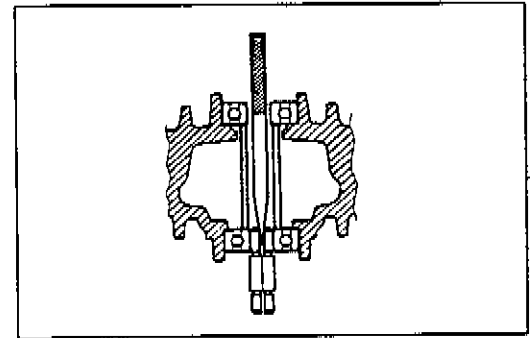


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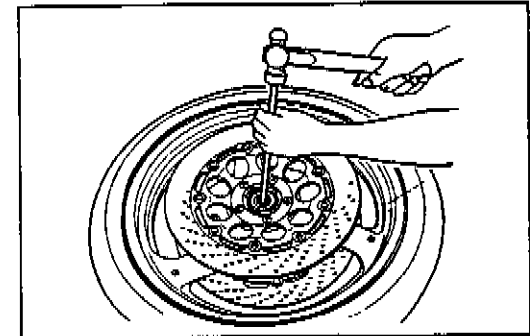
- Drive out both wheel bearings by using the special tool in the following procedures.

09941-50111: Bearing remover

- Insert the special tool into the wheel bearing.



- After inserting the wedge bar from the opposite side, lock the wedge bar in the slit of the special tool.
- Drive out the wheel bearing by knocking the wedge bar.



CAUTION:

The removed bearings should be replaced with new ones.

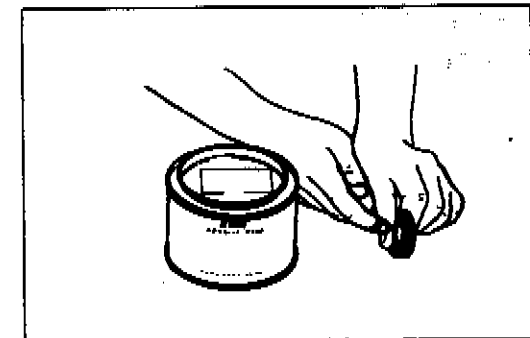
REASSEMBLY AND REMOUNTING

Reassemble and remount the front wheel in the reverse order of removal and disassembly. Pay attention to the following points:

WHEEL BEARING

- Apply grease to the bearing before installing.

99000-25030: SUZUKI SUPER GREASE "A"

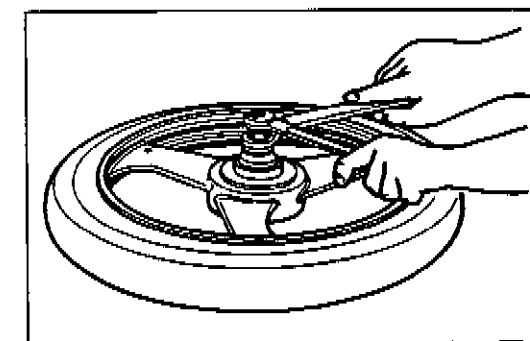


- Install the wheel bearings as follows by using the special tool.

09924-84510: Bearing installer set

NOTE:

First install the left wheel bearing, then install the right wheel bearing. The sealed cover on the bearing is positioned outside. Refer to page 7-11 for details.

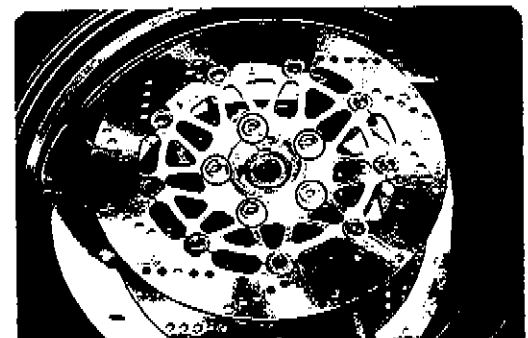


BRAKE DISC

- Make sure that the brake disc is clean and free of any greasy matter. Apply THREAD LOCK SUPER "1360" to the disc mounting bolts and tighten them to the specified torque.

Tightening torque: 18–28 N·m
(1.8–2.8 kg-m, 13.0–20.0 lb-ft)

99000-32130: THREAD LOCK SUPER "1360"



SPEEDOMETER GEARBOX

- Before installing the speedometer gearbox, apply grease to its dust seal lip and align the drive lugs ① to the recesses ② of the wheel hub and attach the speedometer gearbox to the wheel hub.

99000-25030: SUZUKI SUPER GREASE "A"



- Set the stopper on the speedometer gearbox to the lug ③ on the left front fork.

**BRAKE CALIPER**

- Tighten the brake caliper mounting bolts to the specified torque.

**Tightening torque: 20–30 N·m
(2.0–3.0 kg·m, 14.5–21.5 lb-ft)**

NOTE:

Push the pistons all the way into the caliper and remount the calipers.

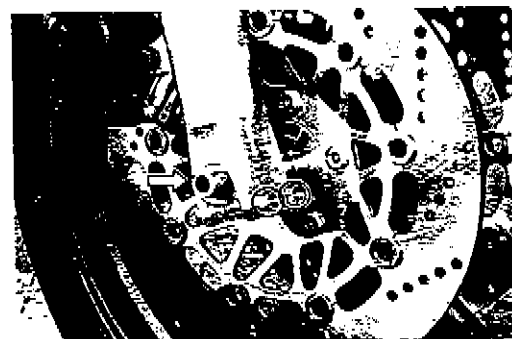
**AXLE SHAFT**

- Tighten the axle shaft to the specified torque.

**Tightening torque: 50–80 N·m
(5.0–8.0 kg·m, 36.0–58.0 lb-ft)**

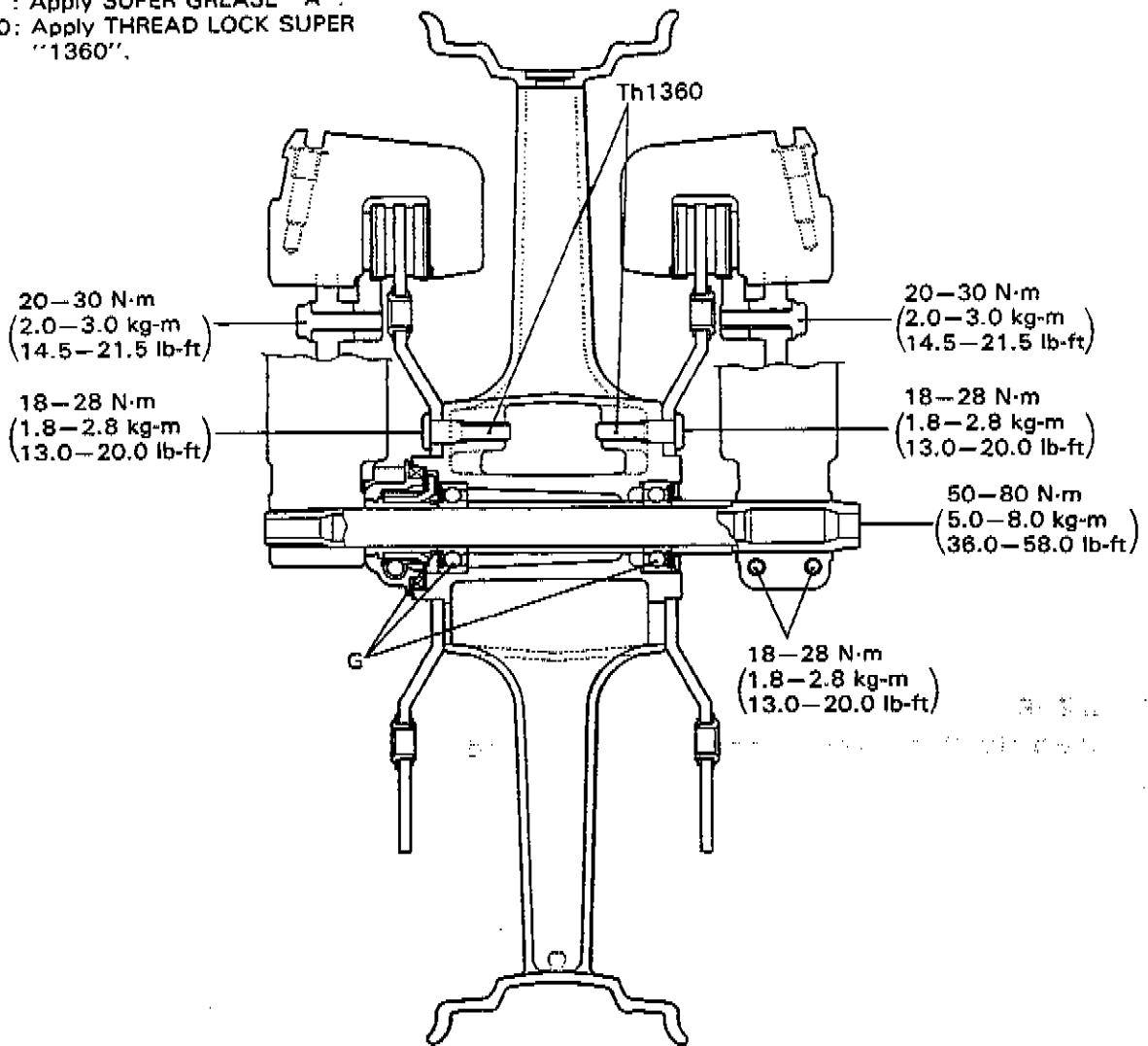
- Tighten the pinch bolt to the specified torque.

**Tightening torque: 18–28 N·m
(1.8–2.8 kg·m, 13.0–20.0 lb-ft)**



7-11 CHASSIS

G : Apply SUPER GREASE "A".
Th1360: Apply THREAD LOCK SUPER "1360".

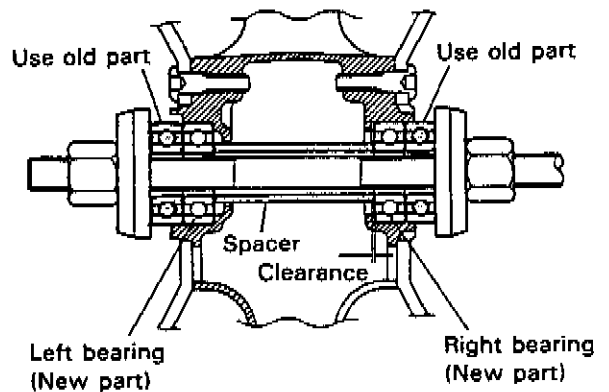
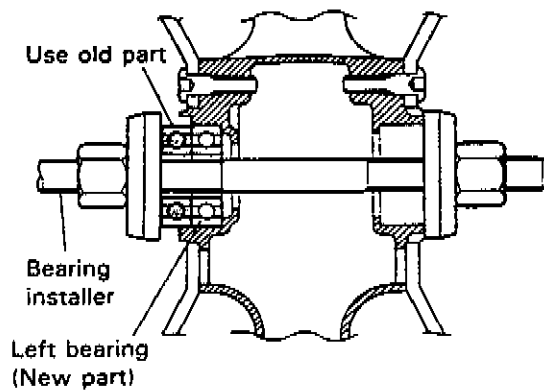


Left ←

⇒ Right

Left ←

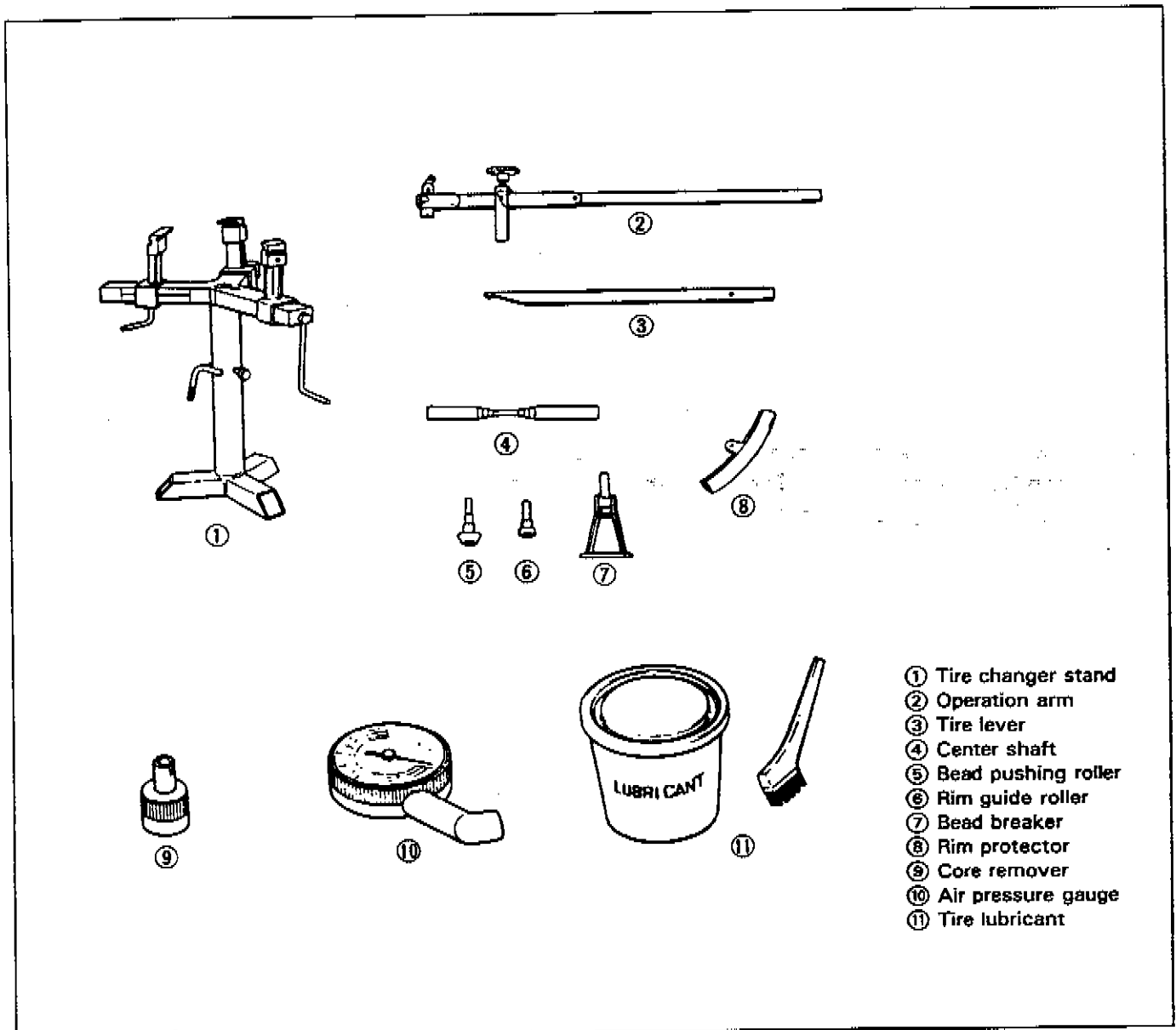
⇒ Right



TIRE AND WHEEL

TIRE REMOVAL

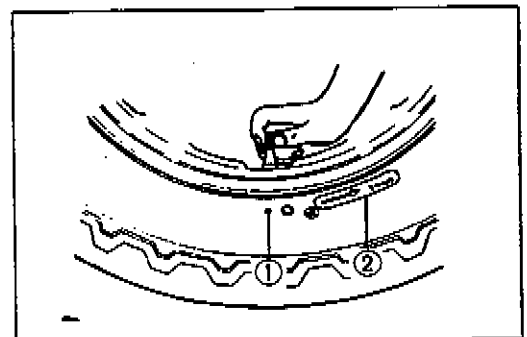
The most critical factor of a tubeless tire is the seal between the wheel rim and the tire bead. Because of this, we recommend using a tire changer which is also more efficient than tire levers. For tire removal, the following tools are required.



- Remove the valve core from the valve stem, and deflate the tire completely.

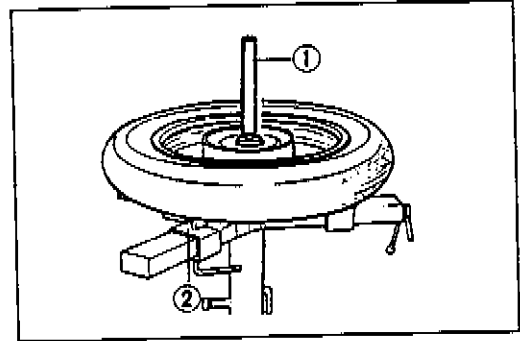
NOTE:

Mark the tire with chalk to note the position ① of the tire on the rim and rotational direction ② of the tire.

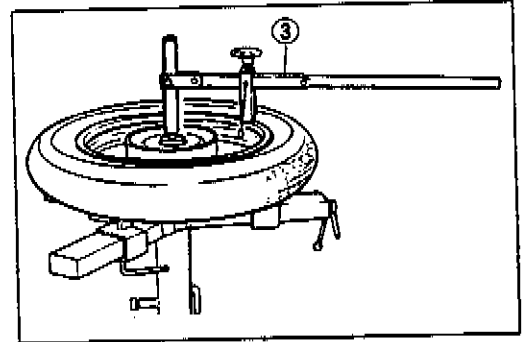


7-13 CHASSIS

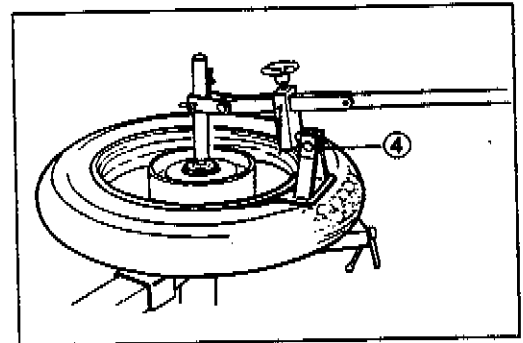
- Place the center shaft ① to the wheel, and fix the wheel with the rim holder ② .



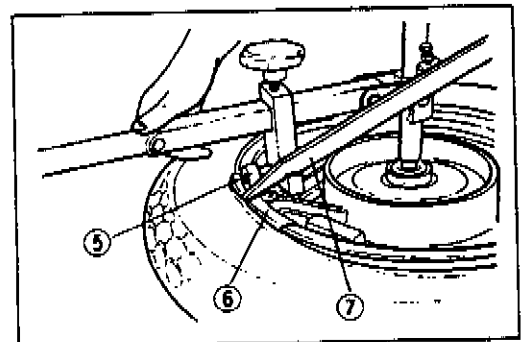
- Attach the operation arm ③ to the center shaft.



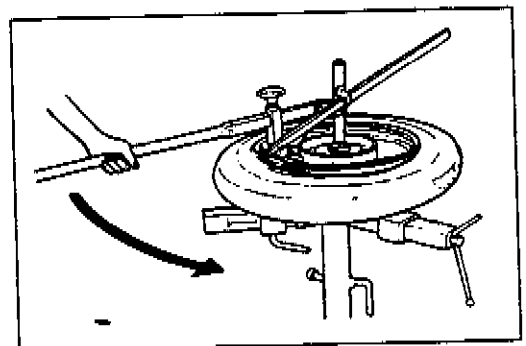
- Attach the bead breaker ④ to the operation arm, and dismount the bead from the rim. Turn the wheel over and dismount the other bead from the rim.



- Install the rim guide roller ⑤ .
- Install the rim protector ⑥ , and raise the bead with the tire lever ⑦ .



- Set the tire lever against the operation arm, and rotate the lever around the rim. Repeat this procedure to remove the other bead from the rim.

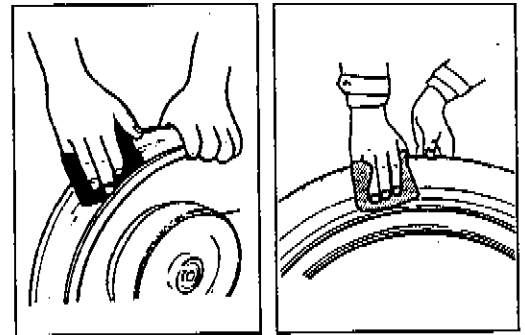


INSPECTION

WHEEL

Wipe off any rubber substance or rust from the wheel, and inspect the wheel rim. If any one of the following items is observed, replace it with a new wheel.

- * A distortion or crack.
- * Any scratches or flaws in the bead seating area.
- * Wheel runout (Axial & Radial) of more than 2.0 mm (0.08 in).



TIRE

Thoroughly inspect the removed tire, and if any one of the following items is observed, do not repair the tire. Replace with a new one.

- * A puncture or a split whose total length or diameter exceeds 6.0 mm (0.24 in).
- * A scratch or split at the side wall.
- * Tread depth less than 1.6 mm (0.06 in) in the front tire and less than 2.0 mm (0.08 in) in the rear tire.

09900-20805: Tire depth gauge

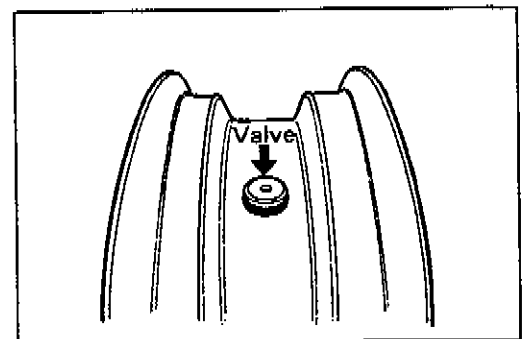
- * Ply separation.
- * Tread separation.
- * Tread wear is extraordinarily deformed or distributed around the tire.
- * Scratches at the bead.
- * Cord is cut.
- * Damage from skidding (flat spots).
- * Abnormality in the inner liner.

NOTE:

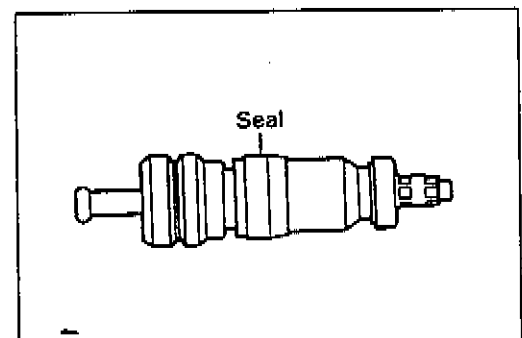
When repairing a flat tire, follow the repair instructions and use only recommended repairing materials.

VALVE INSPECTION

Inspect the valve after the tire is removed from the rim, and replace with a new valve if the seal rubber has any splits or scratches.



Inspect the removed valve core and replace with the new one if the seal is abnormally deformed or worn.



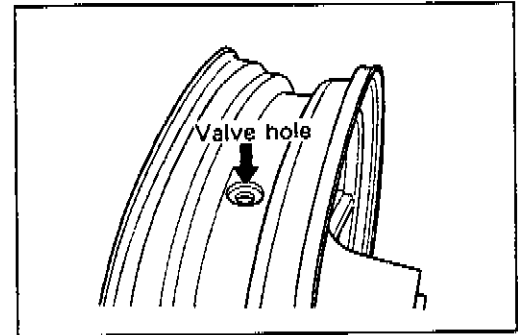
7-15 CHASSIS

VALVE INSTALLATION

Any dust or rust around the valve hole must be cleaned off. Then install the valve in the rim.

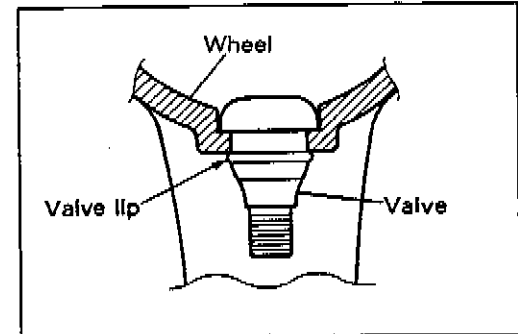
NOTE:

To properly install the valve into the valve hole, apply a special tire lubricant or neutral soapy liquid to the valve.



CAUTION:

Be careful not to damage the threads and lip of valve.

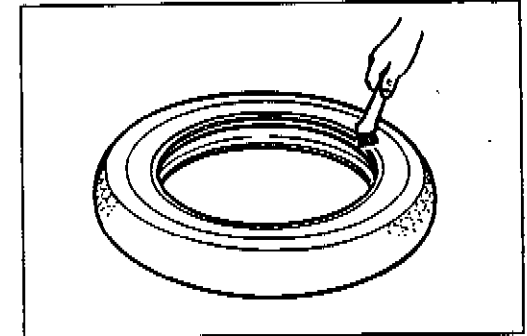


TIRE MOUNTING

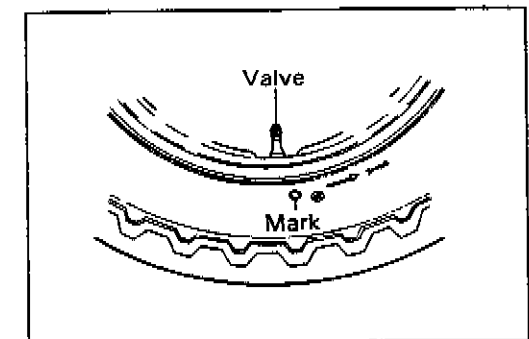
- Apply a special tire lubricant or neutral soapy liquid to the tire bead.

CAUTION:

Never apply grease, oil or gasoline to the tire bead.



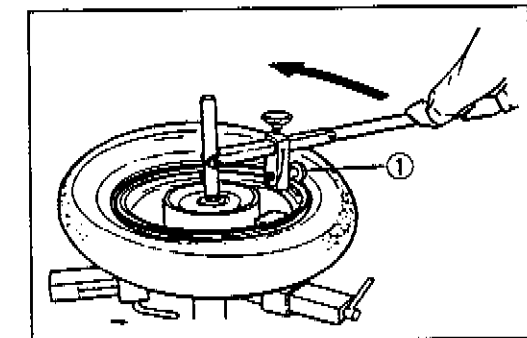
- When installing the tire, make certain that the directional arrow faces the direction of wheel rotation and align the balancing mark of the tire with the valve as shown.



- Set the bead pushing roller ①.
- Rotate the operation arm around the rim to mount the bead completely. Do the bottom bead first, then the upper bead.
- Remove the wheel from the tire changer, and install the valve core in the valve stem.

NOTE:

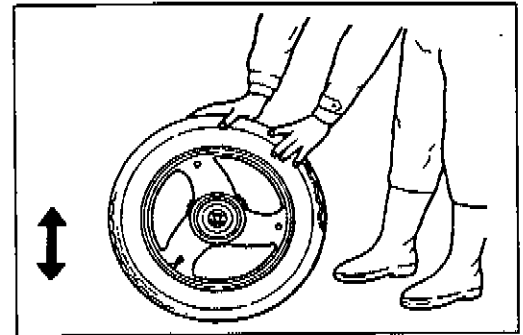
Before installing the valve core, inspect the core.



- Bounce the tire several times while rotating. This makes the tire bead expand outwards, and thus makes inflation easier.

NOTE:

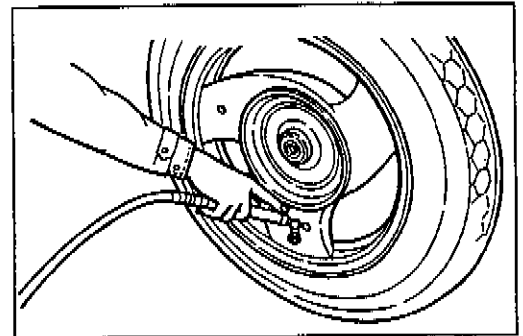
Before inflating, confirm that the balance mark lines up with the valve stem.



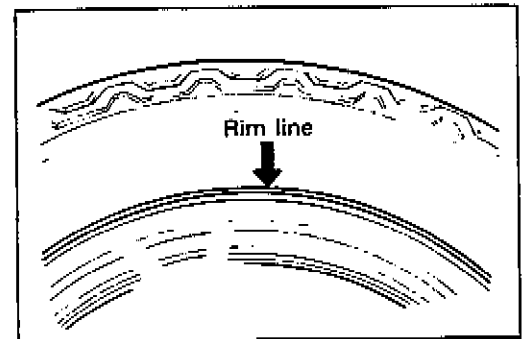
- Pump up the tire with air.

WARNING:

Do not inflate the tire to more than 400 kPa (4.0 kg/cm², 56 psi). The tire could burst with sufficient force to cause severe injury. Never stand directly over the tire while inflating it.

**NOTE:**

Check the "rim line" cast on the tire side walls. It must be equidistant from the wheel rim all the way around. If the distance between the rim line and wheel rim varies, this indicates that the bead is not properly seated. If this is so, deflate the tire completely, and unseat the bead for both sides. Coat the bead with lubricant, and try again.



- After tire is properly seated to the wheel rim, adjust the air-pressure to the recommended pressure. Correct the wheel balance if necessary.

WARNING:

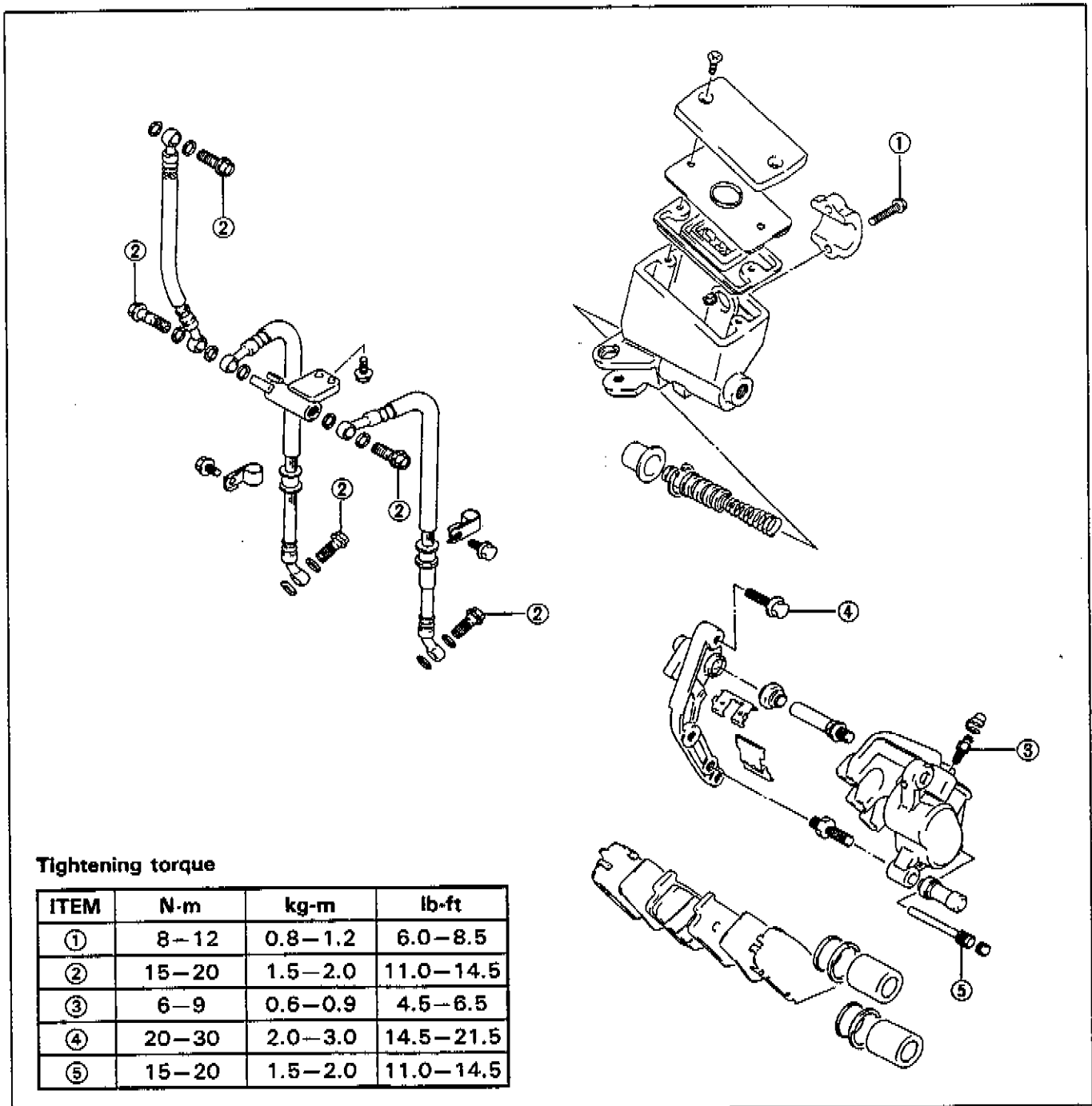
- * Do not run a repaired tire more than 50 km/h (30 mph) within 24 hours after tire repairing, since the patch may not be completely cured.
- * Do not exceed 130 km/h (80 mph) with a repaired tire.

TIRE PRESSURE

COLD INFLATION TIRE PRESSURE	SOLO RIDING			DUAL RIDING		
	kPa	kg/cm ²	psi	kPa	kg/cm ²	psi
FRONT	250	2.50	36	250	2.50	36
REAR	250	2.50	36	290	2.90	41

7-17 CHASSIS

FRONT BRAKE

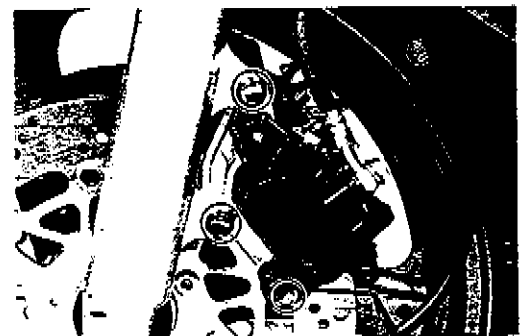


Tightening torque

ITEM	N-m	kg-m	lb-ft
①	8-12	0.8-1.2	6.0-8.5
②	15-20	1.5-2.0	11.0-14.5
③	6-9	0.6-0.9	4.5-6.5
④	20-30	2.0-3.0	14.5-21.5
⑤	15-20	1.5-2.0	11.0-14.5

BRAKE PAD REPLACEMENT

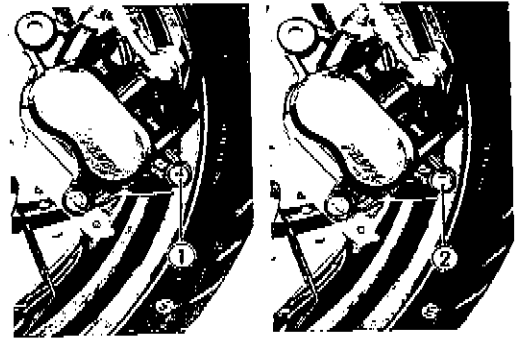
1. Remove the caliper by removing the mounting bolts and speedometer cable guide bolt (for left caliper).



2. Remove the brake pad mounting bolt cap ① .
3. Remove the brake pads by removing the pad mounting bolt ② .

CAUTION:

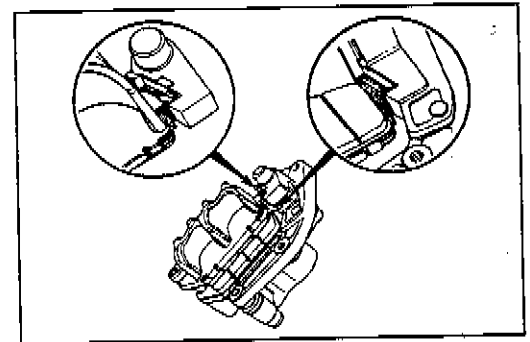
- * Do not operate the brake lever while dismantling the pads.
- * Replace the brake pads as a set, otherwise braking performance will be adversely affected.



4. Remount the new pads.

WARNING:

Make sure that the pads are properly engaged with the guide plate as shown in the illustration.

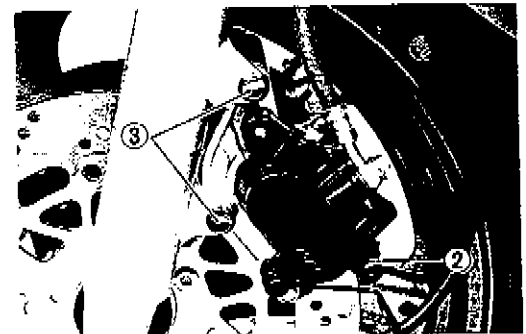


5. Tighten the pads mounting bolt ② to the specified torque.

Tightening torque: 15–20 N·m
(1.5–2.0 kg·m, 11.0–14.5 lb-ft)

6. Tighten the caliper mounting bolts ③ to the specified torque.

Tightening torque: 20–30 N·m
(2.0–3.0 kg·m, 14.5–21.5 lb-ft)



7-18 CHASSIS**CALIPER REMOVAL AND DISASSEMBLY**

1. Disconnect the brake hose from the caliper by removing the union bolt and catch the brake fluid in a suitable receptacle.
2. Remove the brake caliper by removing the caliper mounting bolts and speedometer cable guide bolt (for left caliper).

CAUTION:

Never reuse the brake fluid left over from previous servicing and stored for long periods.

WARNING:

Brake fluid, if it leaks, will interfere with safe running and discolor painted surfaces. Check the brake hose and hose joints for cracks and oil leakage.

3. Remove the pads. (Refer to page 7-18.)
4. Remove the caliper holder ① .

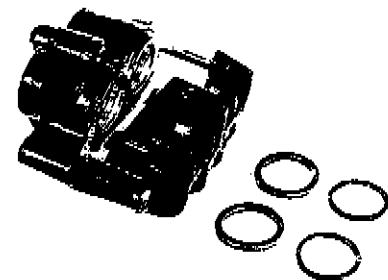
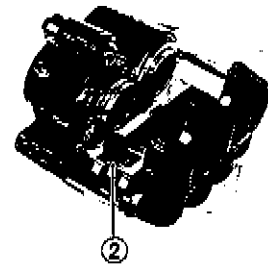
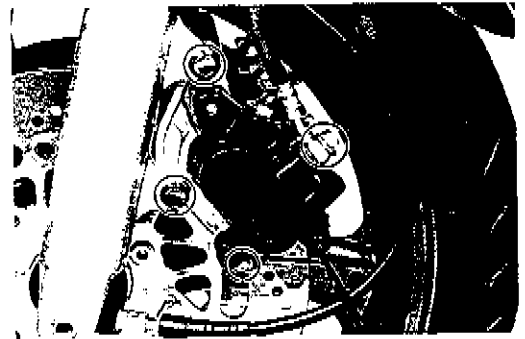
5. Remove the spring ② .

6. Place a rag over the piston to prevent its popping out and push out the piston with an air gun.

CAUTION:

Do not use high pressure air to prevent piston damage.

7. Remove the dust seals and piston seals.



CALIPER INSPECTION

CALIPER

Inspect the caliper cylinder wall for nicks, scratches or other damage.

PISTON

Inspect the piston surface for any scratches or other damage.

RUBBER PARTS

The removed rubber parts should be replaced with new ones.



CALIPER REASSEMBLY AND REMOUNTING

Reassemble the caliper in the reverse order of removal and disassembly. Pay attention to the following points:

CAUTION:

- * Wash the caliper components with fresh brake fluid before reassembly. Never use cleaning solvent or gasoline to wash them.
- * Apply brake fluid to the caliper bore and piston to be inserted into the bore.

Specification and classification: DOT4

CALIPER BOLTS

- Tighten each bolt to the specified torque.

Tightening torque

Front brake caliper

mounting bolt ①: 20–30 N·m
(2.0–3.0 kg·m, 14.5–21.5 lb·ft)

Pads mounting

bolt ② : 15–20 N·m
(1.5–2.0 kg·m, 11.0–14.5 lb·ft)

Brake hose

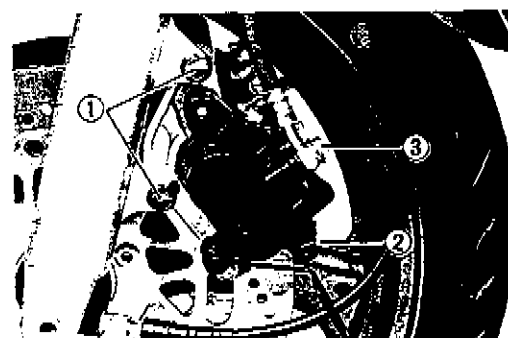
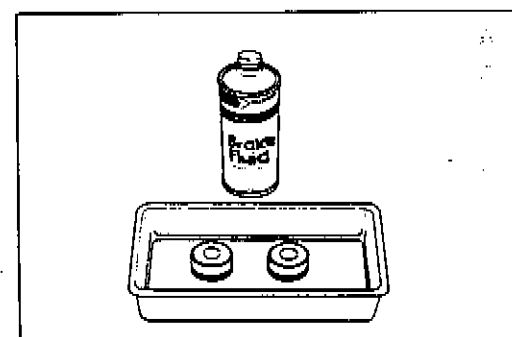
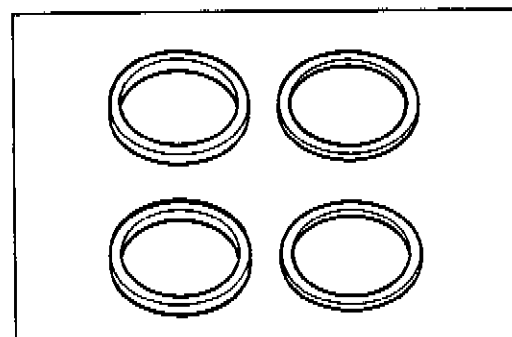
union bolt ③ : 15–20 N·m
(1.5–2.0 kg·m, 11.0–14.5 lb·ft)

CAUTION:

Bleed air from the system after reassembling the caliper. (Refer to page 2-16.)

NOTE:

Before remounting the caliper, push the piston all the way into the caliper.



7-21 CHASSIS

DISC SERVICING

- Remove the front and rear wheels. (Refer to pages 7-7 and 7-41.)
- Remove the disc. (Refer to pages 7-8 and 7-43.)
- Install the disc. (Refer to pages 7-9 and 7-45.)

DISC INSPECTION

Using a micrometer, check the disc for wear, its thickness can be checked with disc and wheel in place. The service limits for the thickness of the discs are shown below.

09900-20205: Micrometer (0–25 mm)

Service Limit (Front): 4.0 mm (0.16 in)

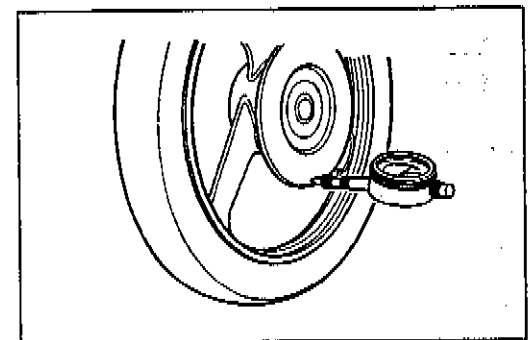
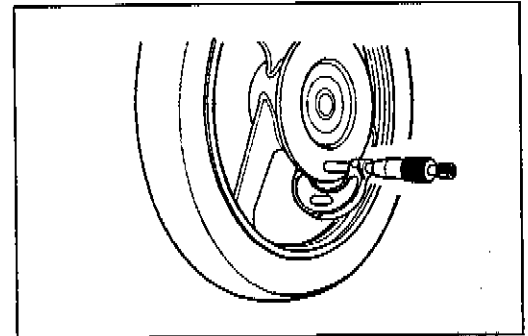
(Rear) : 4.5 mm (0.18 in)

With the disc mounted on the wheel, check the disc for face runout with a dial gauge, as shown.

09900-20606: Dial gauge (1/100 mm)

09900-20701: Magnetic stand

Service Limit: 0.30 mm (0.012 in)

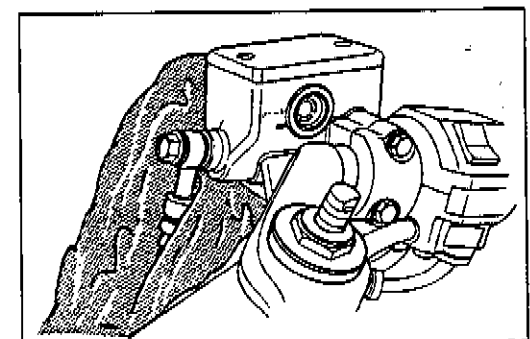
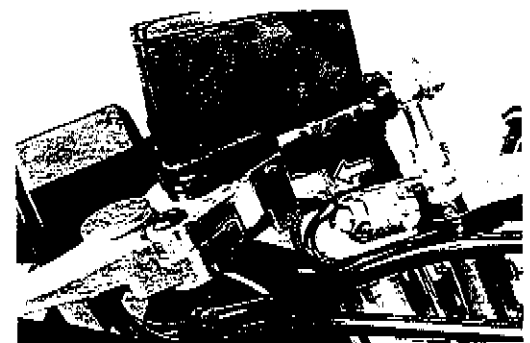


MASTER CYLINDER REMOVAL AND DISASSEMBLY

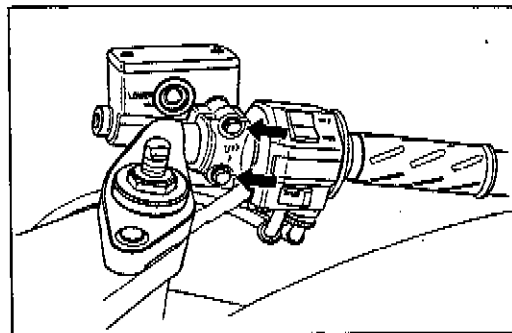
1. Disconnect the front brake light switch lead wires.
2. Place a rag underneath the union bolt on the master cylinder to catch any spilled drops of brake fluid. Remove the union bolt and disconnect the brake hose/master cylinder joint.

CAUTION:

Immediately and completely wipe off any brake fluid contacting any part of the motorcycle. The fluid reacts chemically with paint, plastics and rubber materials, etc. and will damage them severely.

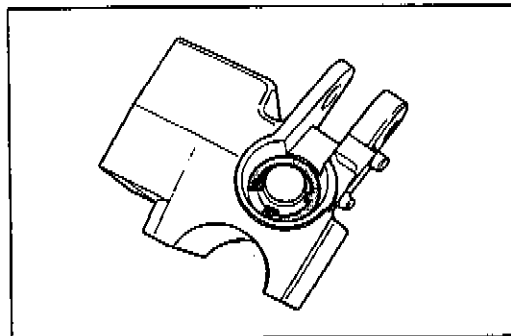


3. Remove the master cylinder assembly.



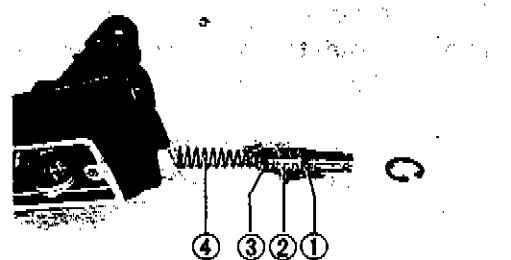
4. Remove the front brake lever, reservoir cap and diaphragm.
5. Drain brake fluid.
6. Remove the dust seal, then remove the circlip by using the special tool.

09900-06108: Snap ring pliers



7. Remove the piston/secondary cup, primary cup and spring.

- ① Secondary cup
- ② Piston
- ③ Primary cup
- ④ Return spring

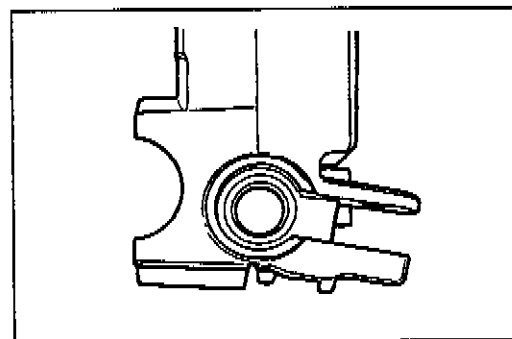


MASTER CYLINDER INSPECTION

Inspect the master cylinder bore for any scratches or other damage.

Inspect the piston surface for any scratches or other damage.

Inspect the primary cup, secondary cup and dust seal for wear or damage.



7-23 CHASSIS**MASTER CYLINDER REASSEMBLY AND REMOUNTING**

Reassemble the master cylinder in the reverse order of removal and disassembly. Pay attention to the following points:

CAUTION:

- * Wash the master cylinder components with fresh brake fluid before reassembly. Never use cleaning solvent or gasoline to wash them.
- * Apply brake fluid to the cylinder bore and all the component to be inserted into the bore.

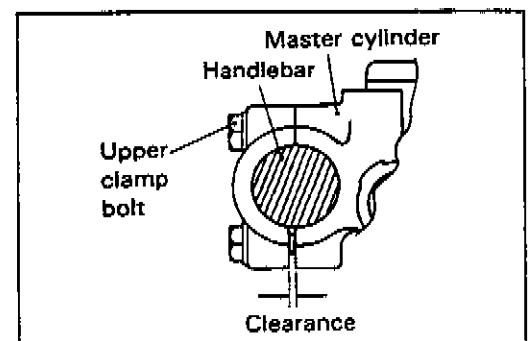
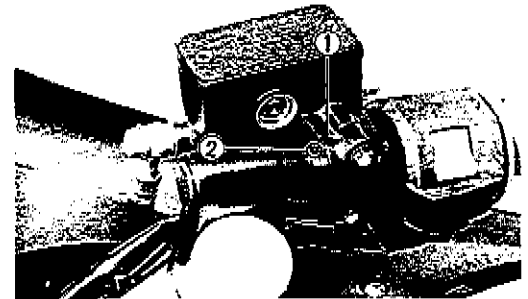
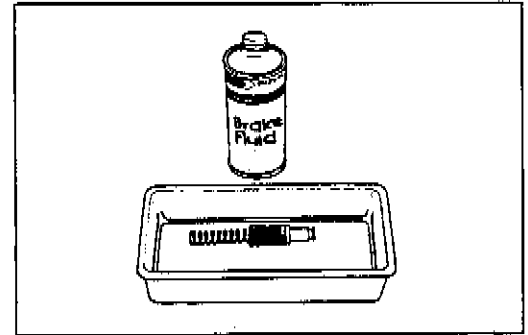
Specification and classification: DOT4

- When remounting the master cylinder on the handlebar, align the master cylinder holder's mating surface ① with punched mark ② on the handlebar and tighten the upper clamp bolt first as shown.

Tightening torque: 8–12 N·m
(0.8–1.2 kg·m, 6.0–8.5 lb·ft)

CAUTION:

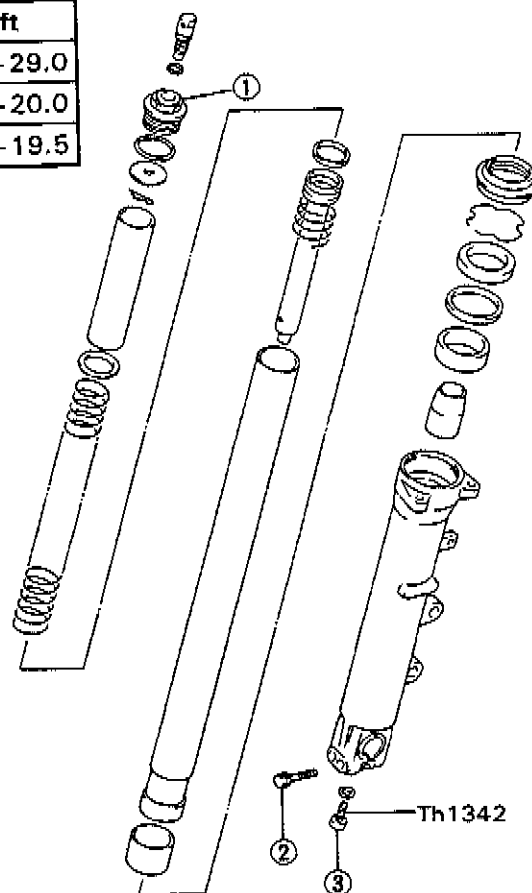
Bleed air from the system after reassembling master cylinder.
(Refer to page 2-16.)



FRONT FORK

Tightening torque

ITEM	N·m	kg·m	lb·ft
①	30-40	3.0-4.0	21.5-29.0
②	18-28	1.8-2.8	13.0-20.0
③	18-27	1.8-2.7	13.0-19.5



Th1342: Apply THREAD LOCK "1342".

REMOVAL AND DISASSEMBLY

1. Remove the cowling. (Refer to page 7-2.)
2. Remove the front wheel. (Refer to page 7-7.)
3. Remove the front fender brace with front fender by removing the fender brace mounting bolts.



4. Remove the brake hose clamps from the front fork.

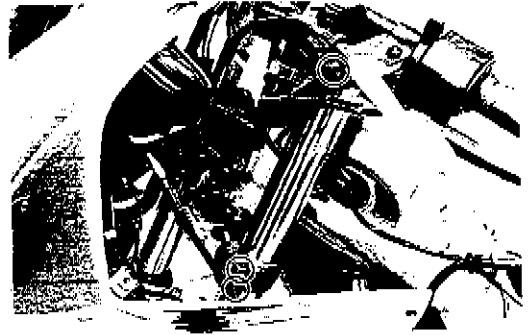


7-25 CHASSIS

6. Remove the front fork after loosening the front fork upper and lower clamp bolts.

NOTE:

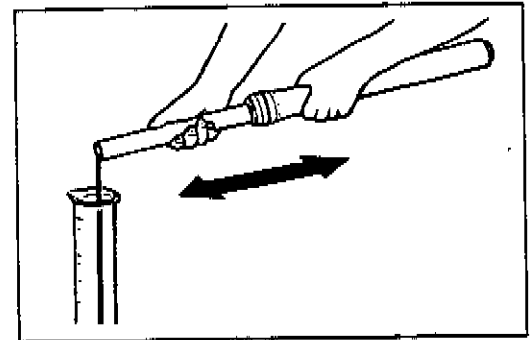
Slightly loosen the front fork cap bolt to facilitate later disassembly before loosening the front fork lower clamp bolts.



7. Remove the fork cap bolt, spacer, washer and spring.



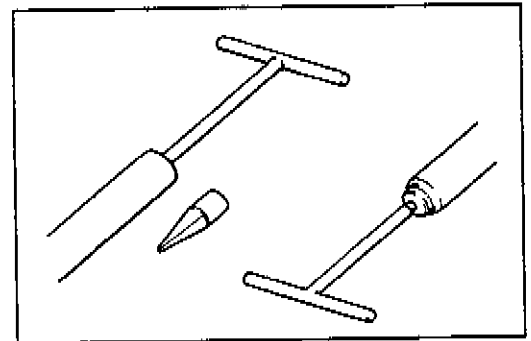
8. Invert the fork and stroke it several times to let out fork oil.
Under the inverted condition of front fork, drain oil to hold it for few minutes.



9. Remove the damper rod bolt with the special tools and 6-mm hexagon wrench.

09940-34520: "T" handle

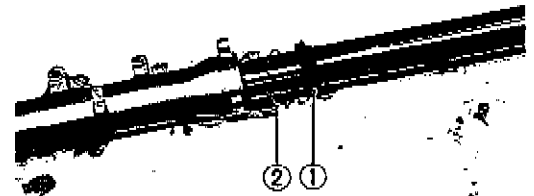
09940-34561: Attachment "D"



10. Remove the damper rod with spring.



11. Remove the dust seal ① and stopper ring ②.



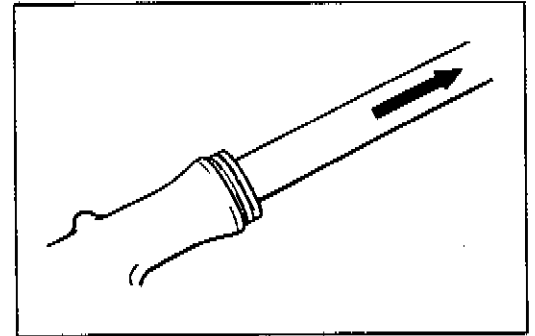
12. Remove the oil seal by slowly pulling out the inner tube.

NOTE:

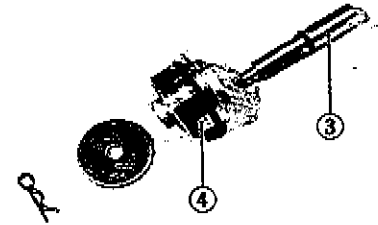
Be careful not to damage the inside of the tube.

CAUTION:

The outer tube and inner tube "ANTI-FRICTION" metals must be replaced along with oil seal and dust seal, when assembling the front fork.



13. Remove the spring adjuster ③ from the fork cap ④ by removing the clip.

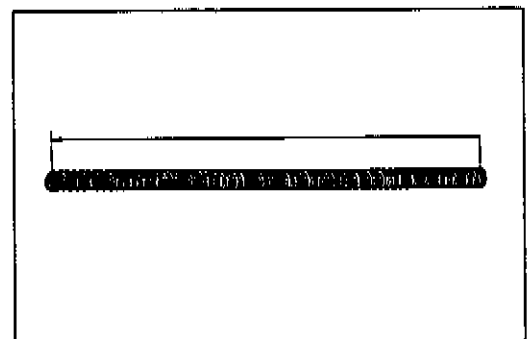


INSPECTION

FORK SPRING

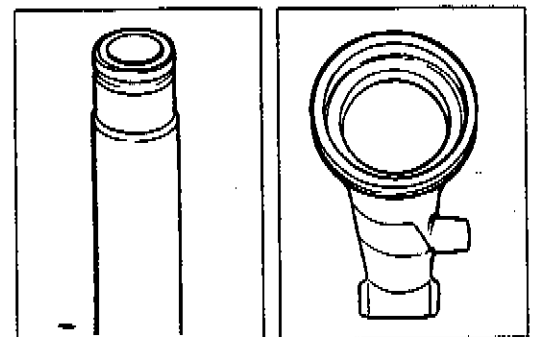
Measure the fork spring free length. If it is shorter than the service limit, replace it with a new one.

Service Limit: 390 mm (15.4 in)



INNER AND OUTER TUBE

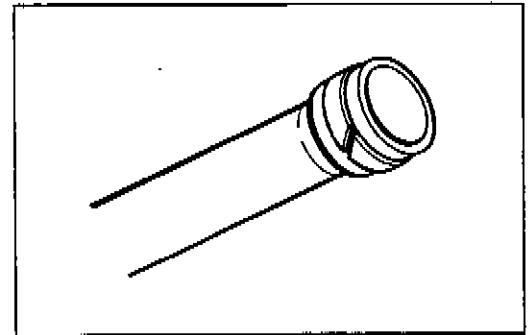
Inspect the inner tube sliding surface and outer tube sliding surface for any scuffing.



7-27 CHASSIS

DAMPER ROD RING

Inspect the damper rod ring for wear or damage.

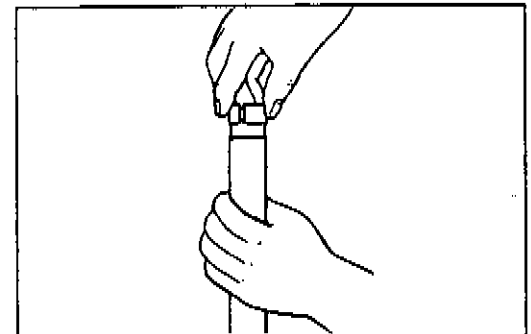


REASSEMBLY AND REMOUNTING

Reassemble and remount the front fork in the reverse order of removal and disassembly. Pay attention to the following points:

TUBE METALS AND SEALS

- Hold the inner tube vertically and clean the metal groove and install the ANTI-FRICTION metal by hand as shown.
- Install the outer tube metal ①, washer ② and oil seal ③ with the special tool.

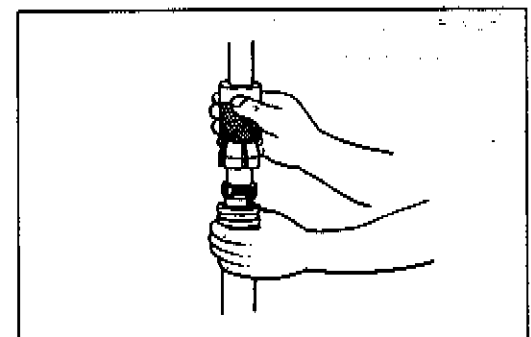


09940-50113: Front fork oil seal installer

CAUTION:

Use special care to prevent damage to the "Teflon" coated surface of the Anti-friction Inner tube metal when mounting it.

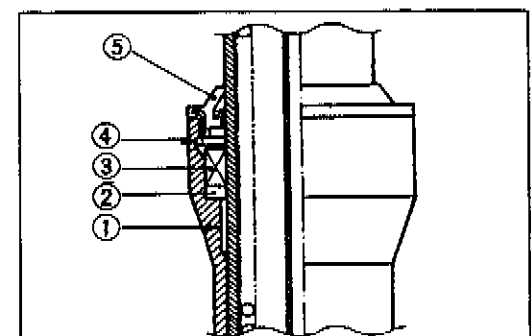
- Install the oil seal stopper ring ④.



CAUTION:

Make sure that the oil seal stopper ring fitted securely.

- Install the dust seal ⑤.



DAMPER ROD BOLT

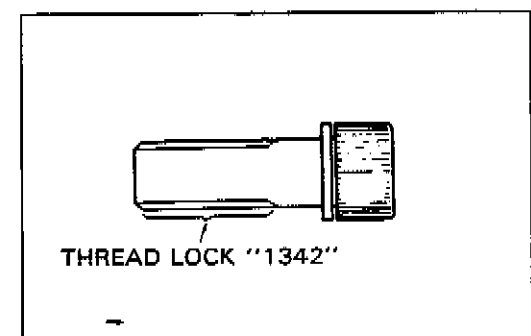
Apply THREAD LOCK "1342" to the damper rod bolt and tighten it to the specified torque with a 6-mm hexagon wrench and special tools.

99000-32050: THREAD LOCK "1342"

Tightening torque: 18--27 N·m
(1.8--2.7 kg-m, 13.0--19.5 lb-ft)

09940-34520: "T" handle

09940-34551: Attachment "D"



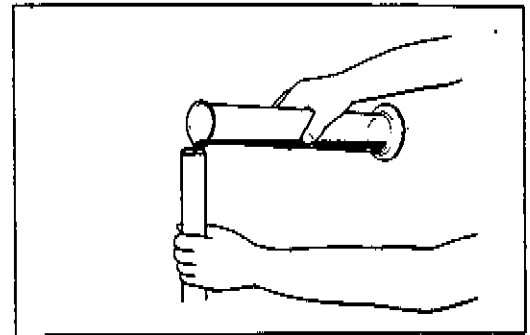
FORK OIL

- Pour specified fork oil into the inner tube.

Fork oil type: Fork oil # 10

99000-99044-10G: SUZUKI FORK OIL # 10

Capacity (each leg): 503 ml (17.0/17.7 US/Imp oz)



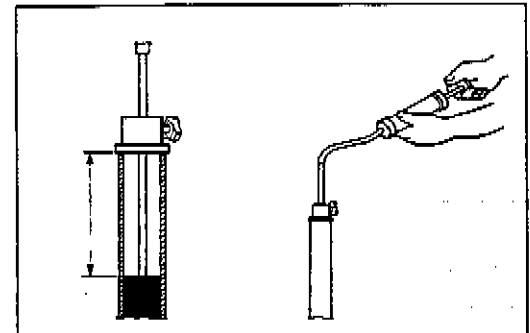
- Hold the front fork vertical and adjust the fork oil level with the special tool.

09943-74111: Fork oil level gauge

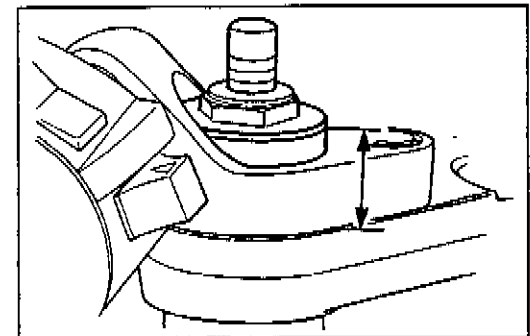
Oil level: 92 mm (3.6 in)

Note:

When adjusting the oil level, remove the fork spring and compress the inner tube fully.

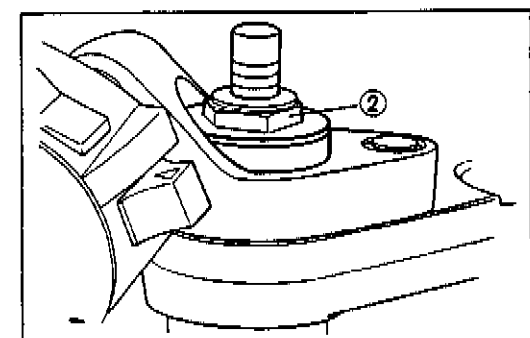
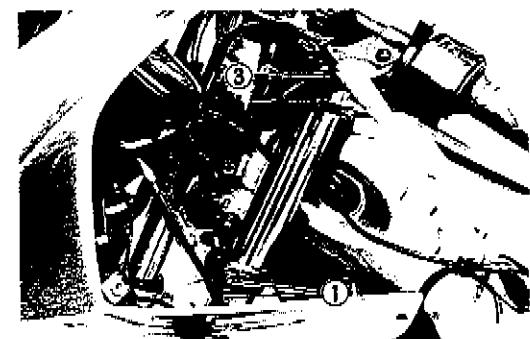


- When remounting the front fork assembly, set the upper surface of the inner tube at 22 mm (0.87 in) height from the upper surface of the steering stem upper bracket.



- Tighten the bolts to the specified torque.

Item	N·m	kg·m	lb·ft
① Fork lower clamp bolt	18-28	1.8-2.8	13.0-20.0
② Fork cap	30-40	3.0-4.0	21.5-29.0
③ Fork upper clamp bolt	18-28	1.8-2.8	13.0-20.0

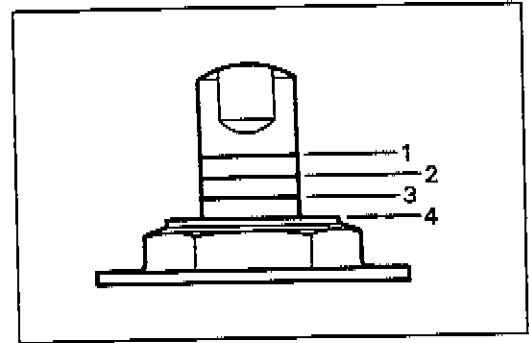


7-29 CHASSIS**SUSPENSION SETTING**

After installing the front fork, adjust the spring pre-load as follows.

SPRING PRE-LOAD ADJUSTMENT

There are four grooved lines on the side of the spring adjuster. Position 1 provides the maximum spring pre-load and position 4 provides the minimum spring pre-load.

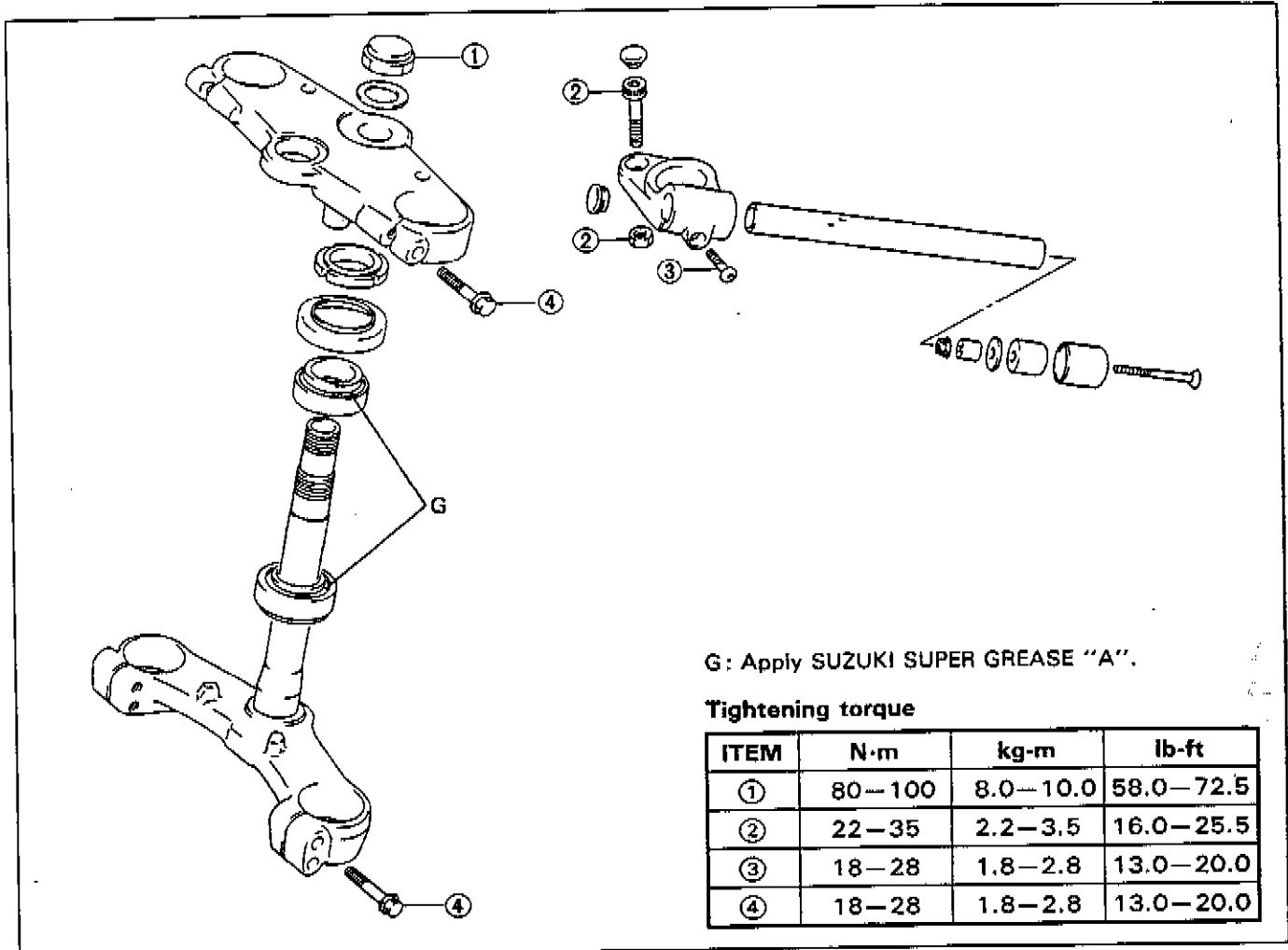
**FRONT SUSPENSION SETTING (STD)**

Item	Spring pre-road
Solo riding	4
Dual riding	4

WARNING:

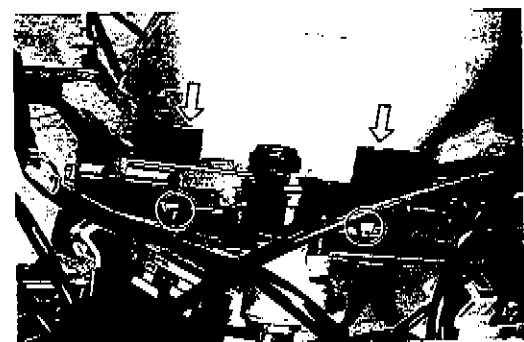
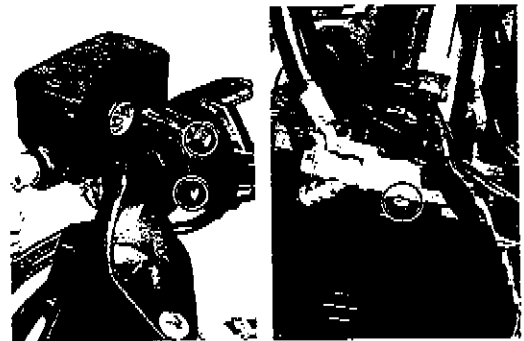
Be sure to adjust the spring pre-load on both front fork legs equally.

STEERING



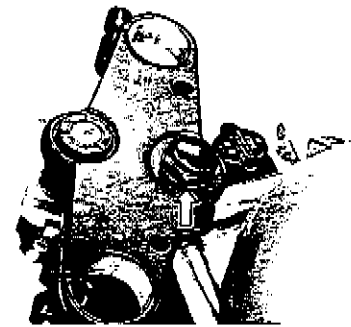
REMOVAL AND DISASSEMBLY

1. Remove the cowling and cowling brace. (Refer to page 7-2.)
2. Remove the front wheel. (Refer to page 7-7.)
3. Remove the front fork. (Refer to page 7-24.)
4. Remove the front brake master cylinder with brake calipers.
5. Remove the handlebar mounting nuts and bolts after removing the bolt caps.



7-31 CHASSIS

6. Disconnect the ignition switch lead wire coupler.
7. Remove the steering stem upper bracket by removing the nut.



8. Remove the steering stem nut with the special tool.

09940-14911: Steering stem nut wrench

9. Draw out the steering stem lower bracket.

NOTE:

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

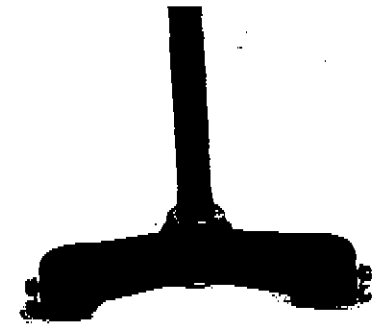


10. Remove the steering stem upper bearing.

INSPECTION

Inspect the removed parts for the following abnormalities.

- * Handlebar distortion
- * Race wear and brinelling
- * Bearing wear or damage
- * Abnormal noise of bearing
- * Distortion of steering stem

**DISASSEMBLY**

1. Remove the steering stem lower bearing with the special tool.

09941-84510: Bearing remover

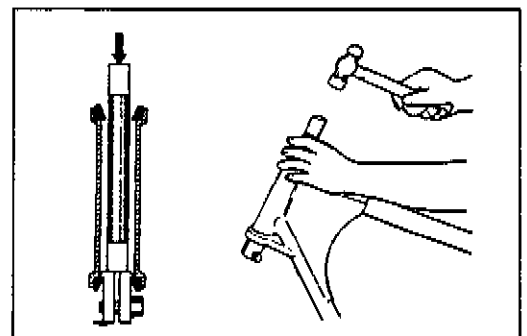
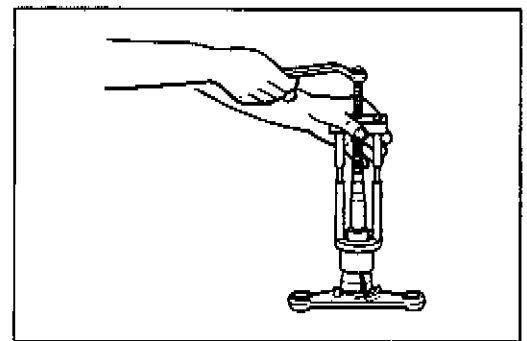
CAUTION:

The removed bearing should be replaced with a new one.

2. Drive out the steering stem bearing races, upper and lower, by using the special tools.

09941-54911: Bearing outer race remover

09941-74910: Steering bearing installer



REASSEMBLY AND REMOUNTING

Reassemble and remount the steering stem in the reverse order of removal and disassembly. Pay attention to the following points:

OUTER RACES

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

09941-34513: Steering outer race installer

BEARING

- Place a suitable washer onto the lower bearing and press in the lower bearing by using the special tool.

09941-74910: Steering bearing installer

- Apply grease to the upper and lower bearings before re-mounting the steering stem.

99000-25030: SUZUKI SUPER GREASE "A"

STEM NUT

- Tighten the steering stem nut to the specified torque.

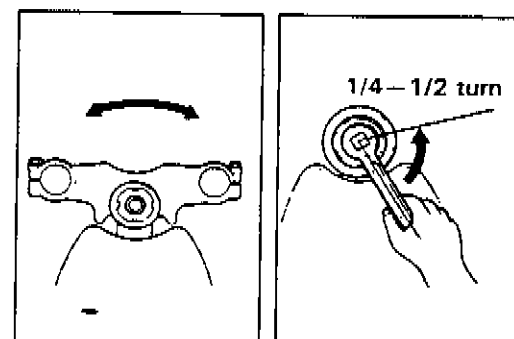
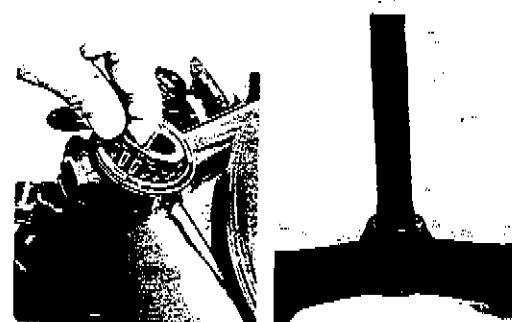
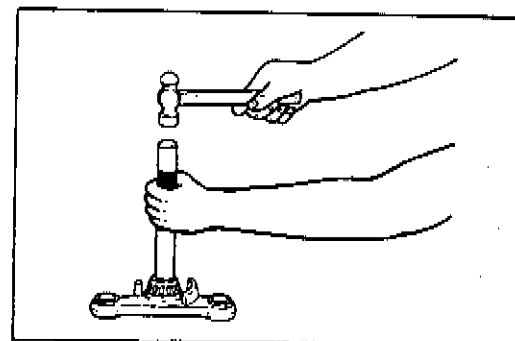
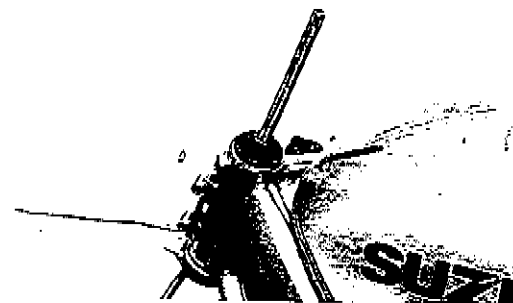
09940-14911: Steering stem nut wrench

**Tightening torque: 40–50 N·m
(4.0–5.0 kg·m, 29.0–36.0 lb·ft)**

- Turn the steering stem lower bracket about five or six times to the left and right so that the taper roller bearing will be seated properly.
- Turn back the stem nut by 1/4–1/2 turn.

NOTE:

This adjustment will vary from motorcycle to motorcycle.

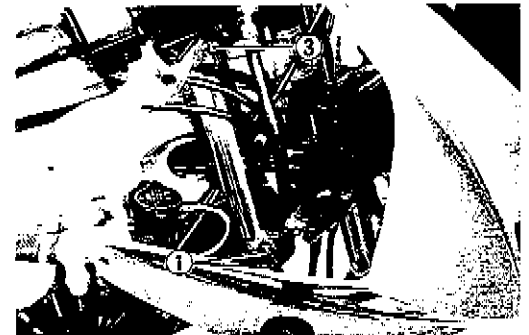
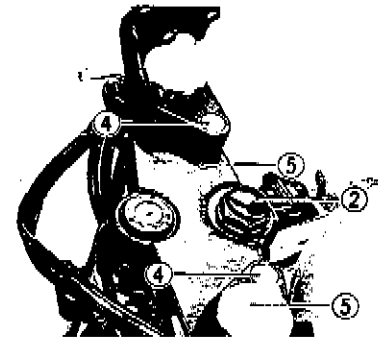


7-33 CHASSIS

- Install the front forks. (Refer to page 7-29.)
- Tighten the front fork lower clamp bolts ①, steering stem head nut ②, upper clamp bolts ③, handlebar holder mounting bolts ④ and nuts ⑤.

Tightening torque

Front fork lower clamp bolt ①	: 18–28 N·m (1.8–2.8 kg·m, 13.0–20.0 lb-ft)
Stem head nut ②	: 80–100 N·m (8.0–10.0 kg·m, 58.0–72.5 lb-ft)
Front fork upper clamp bolt ③	: 18–28 N·m (1.8–2.8 kg·m, 13.0–20.0 lb-ft)
Handlebar holder mounting bolt ④ and nut ⑤	: 22–35 N·m (2.2–3.5 kg·m, 16.0–25.5 lb-ft)



STEERING TENSION ADJUSTMENT

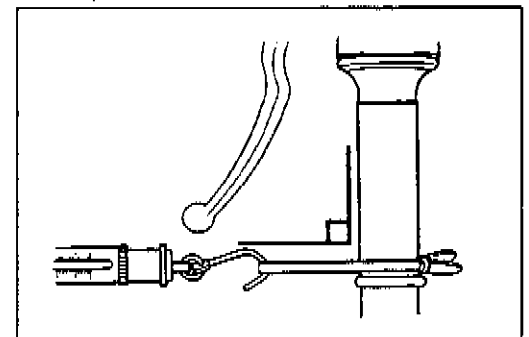
Check the steering movement in the following procedure.

- By supporting the motorcycle with a jack, lift the front wheel until it is off the floor by 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. Do the same on the other grip end.

Initial force: 200–500 grams

09940-92710: Spring scale

- 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.
 - 1) First, loosen the front fork upper clamp bolts and steering stem head nut, and then adjust the steering stem nut by loosening or tightening it.
 - 2) Tighten the head nut and clamp bolts to the specified torque and re-check the initial force with the spring scale according to the previously described procedure.
 - 3) 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.



IGNITION SWITCH

- To remove the ignition switch, remove the bolt to detach the ignition switch from the steering stem upper bracket by using a center punch and hammer.



- To install the ignition switch, always use the new special bolt and follow the procedures below:

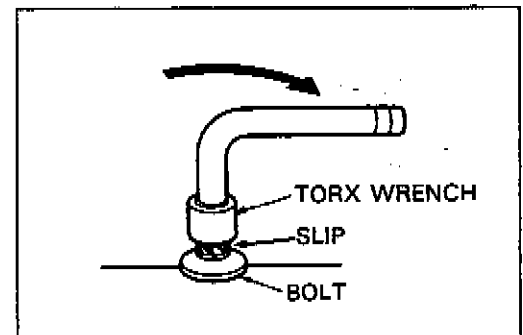
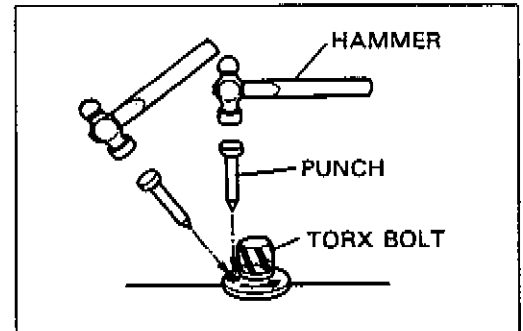
NOTE:

The spare ignition switch comes equipped with the special bolts, however, the bolt is also individually available as a spare part.

- Using the special bolts, attach the ignition switch on the steering stem upper bracket in place and run in the bolts with the special tool.

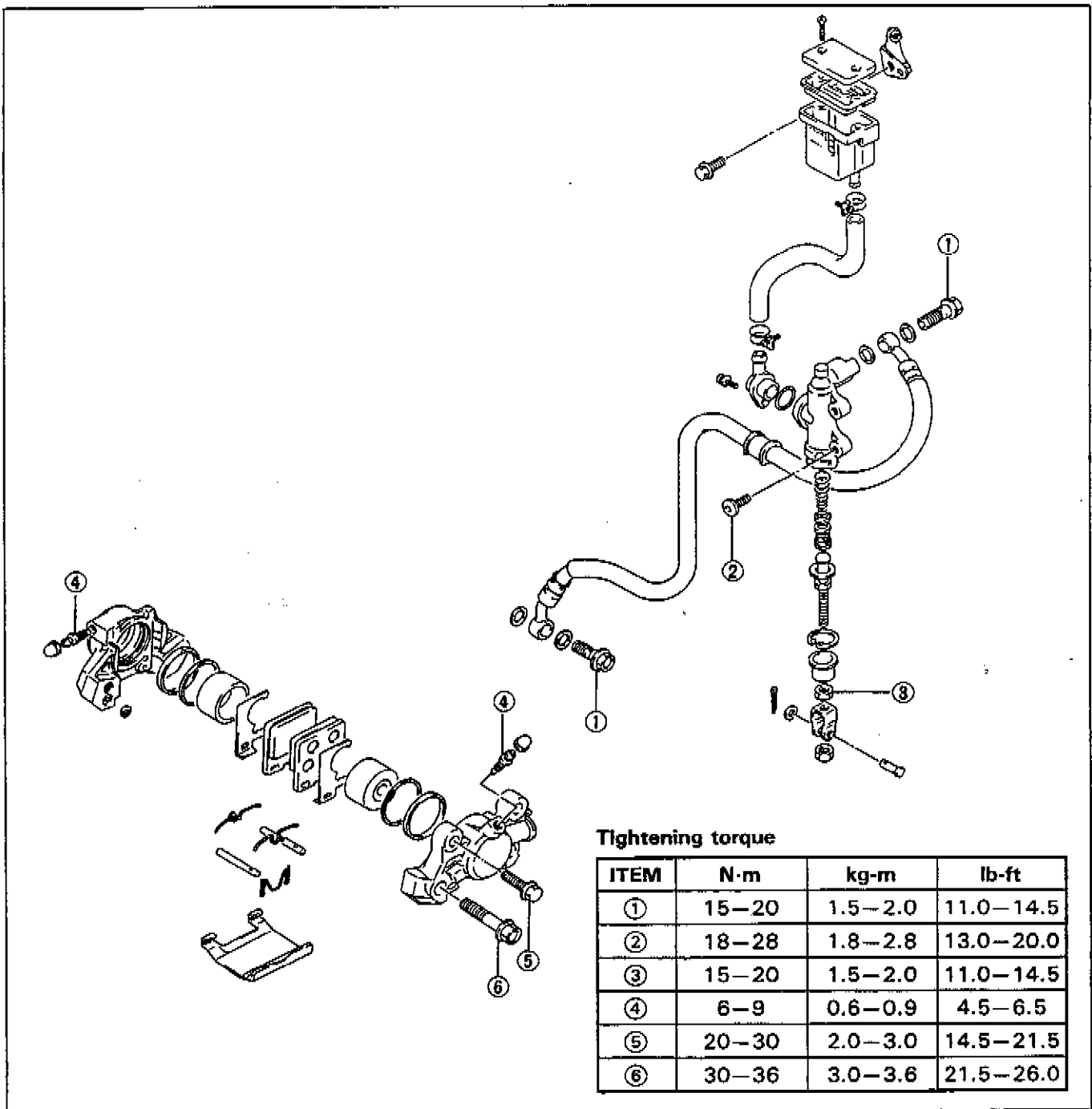
09930-11910: Torx wrench

- Continue turning the tool until the tool slips from the bolt head or the bolt head breaks off, then the bolt has become tightened to the proper specification.



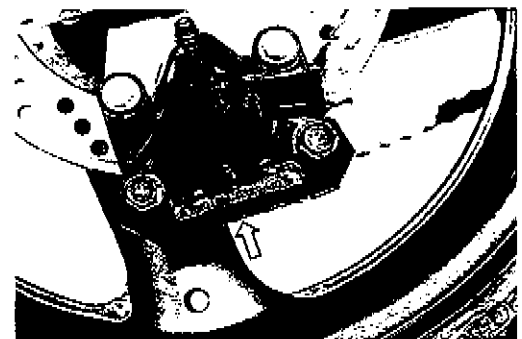
7-35 CHASSIS

REAR BRAKE

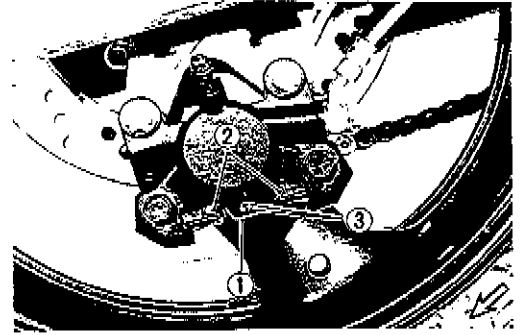


BRAKE PAD REPLACEMENT

1. Remove the dust cover.



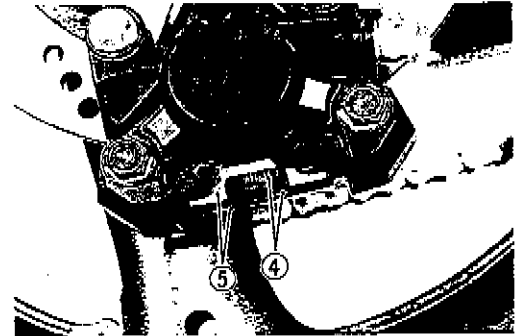
2. Remove the clip ① .
3. Draw out the pins ② and removing the springs ③ .



4. Remove the pads ④ and shims ⑤ .

CAUTION:

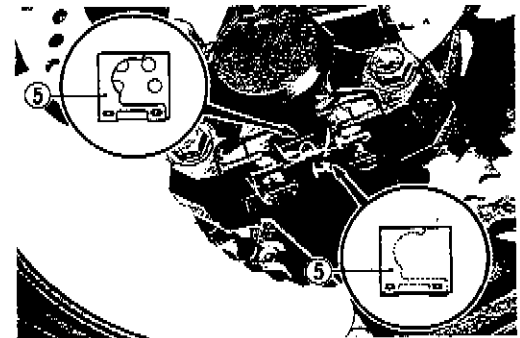
- * Do not operate the brake pedal while dismantling the pads.
- * Replace the brake pad as a set, otherwise braking performance will be adversely affected.



5. Remount the new brake pads and fit the springs, pins and clip.

CAUTION:

Be sure to install the shims ⑤ properly as shown in the illustration.

**CALIPER REMOVAL AND DISASSEMBLY**

1. Remove the union bolt ⑥ and catch the brake fluid in a suitable receptacle.

CAUTION:

Never reuse the brake fluid left over from previous servicing and stored for long periods.

WARNING:

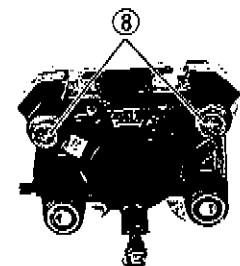
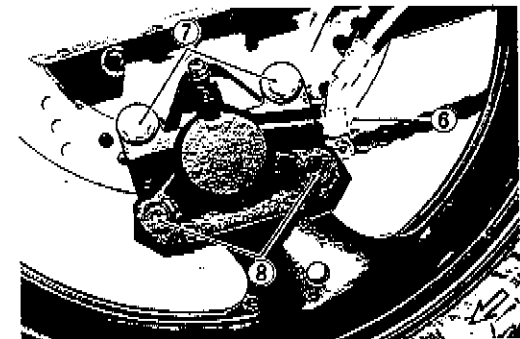
Brake fluid, if it leaks, will interfere with safe running and discolor painted surfaces. Check the brake hose and hose joints for cracks and oil leakage.

2. Remove the caliper mounting bolts ⑦ .

NOTE:

Slightly loosen the caliper housing bolts ⑧ to facilitate later disassembly before removing the caliper mounting bolts.

3. Remove the pads.
4. Remove the caliper housing bolts ⑧ .

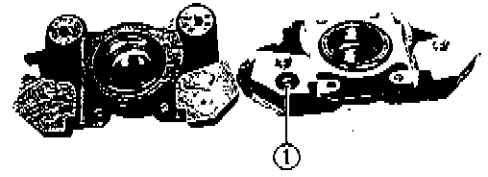


7-37 CHASSIS

- 5. Separate the caliper halves.
- 6. Remove the O-ring ① .

NOTE:

Once separate the caliper halves, replace the O-ring ① with a new one.



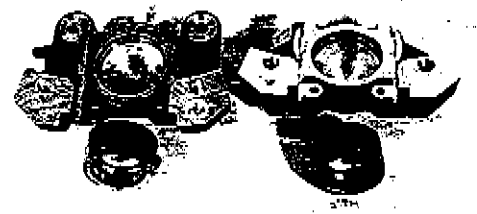
- 7. Place a rag over the piston to prevent it from popping out and push out the piston by using an air gun.

CAUTION:

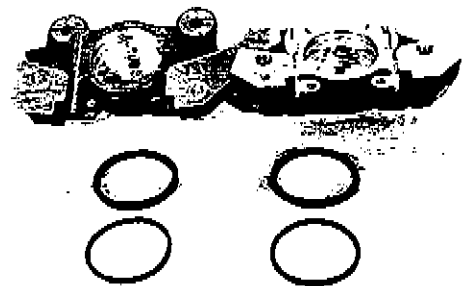
Do not use high pressure air to prevent piston damage.



- 8. Remove the pistons.



- 9. Remove the dust seals and piston seals.



CALIPER INSPECTION

- CYLINDER** Refer to page 7-20.
- PISTON** Refer to page 7-20.
- RUBBER PARTS** Refer to page 7-20.
- DISC** Refer to page 7-21.

CALIPER REASSEMBLY AND REMOUNTING

Reassemble and remount the caliper in the reverse order of removal and disassembly. Pay attention to the following points:

CAUTION:

- * Wash the caliper components with fresh brake fluid before reassembly. Never use cleaning solvent or gasoline to wash them.
- * Apply brake fluid to the caliper bore and piston to be inserted into the bore.

Specification and classification: DOT4

- Tighten each bolt to the specified torque.

Tightening torque

Rear brake caliper

housing bolt ① : 30–36 N·m
(3.0–3.6 kg-m, 21.5–26.0 lb-ft)

Rear brake caliper

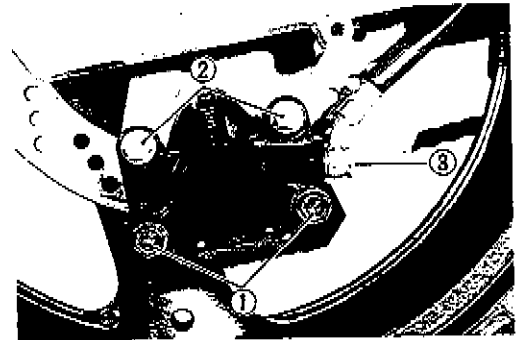
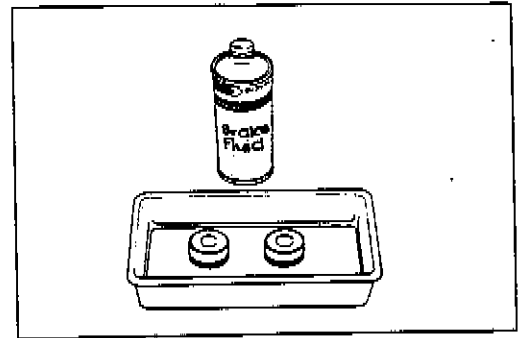
mounting bolt ② : 20–30 N·m
(2.0–3.0 kg-m, 14.5–21.5 lb-ft)

Brake hose

union bolt ③ : 15–20 N·m
(1.5–2.0 kg-m, 11.0–14.5 lb-ft)

CAUTION:

Bleed air from the system after reassembling the caliper.
(Refer to page 2-16.)



MASTER CYLINDER REMOVAL AND DISASSEMBLY

1. Remove both seats.
2. Remove the frame cover. (Refer to page 7-5.)
3. Free the reservoir tank to remove its mounting bolt ④.
4. Loosen the lock nut ⑤.
5. Remove the master cylinder mounting bolts ⑥.

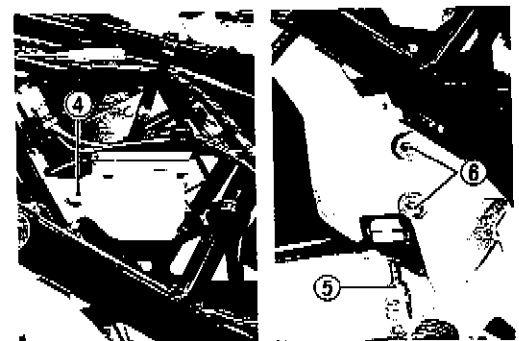
NOTE:

Slightly loosen the brake hose union bolt ⑦ to facilitate later disassembly before removing the master cylinder.

6. Place a cloth underneath the union bolt ⑦ on the master cylinder to catch spilled drops of brake fluid.
7. Loosen the union bolt and disconnect the brake hose from the master cylinder joint.

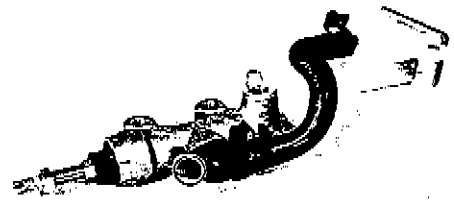
NOTE:

Immediately and completely wipe off any brake fluid contacting any part of the motorcycle. The fluid reacts chemically with paint, plastics and rubber materials, etc. and will damage them severely.

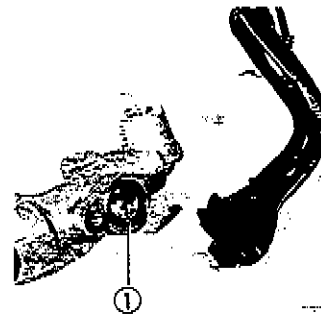


7-39 CHASSIS

8. Remove the connector by removing the screw.

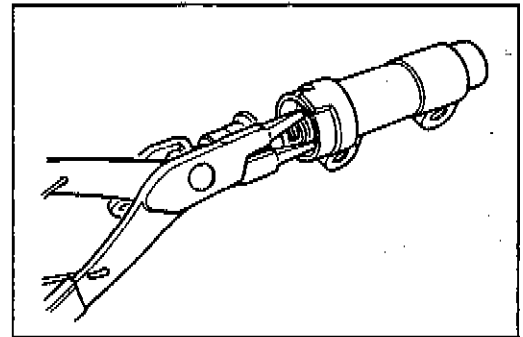


9. Remove the O-ring ①.



10. Pull out the dust seal then remove the circlip by using the special tool.

09900-06108: Snap ring pliers



11. Remove the push rod, piston/primary cup and spring.

**MASTER CYLINDER INSPECTION****CYLINDER, PISTON AND CUP SET**

- Inspect the cylinder bore wall for any scratches or other damage.
- Inspect the piston surface for any scratches or other damage.
- Inspect the cup set and each rubber part for damage.

MASTER CYLINDER REASSEMBLY AND REMOUNTING

Reassemble and remount the master cylinder in the reverse order of removal and disassembly. Pay attention to the following points:

CAUTION:

- * Wash the master cylinder components with fresh brake fluid before reassembly. Never use cleaning solvent or gasoline to wash them.
- * Apply brake fluid to the cylinder bore and all the component to be inserted into the bore.

Specification and classification: DOT4

MASTER CYLINDER BOLTS

- Tighten each bolt to the specified torque.

Tightening torque

Brake hose

union bolt ① : 15–20 N·m
(1.5–2.0 kg·m, 11.0–14.5 lb-ft)

Master cylinder

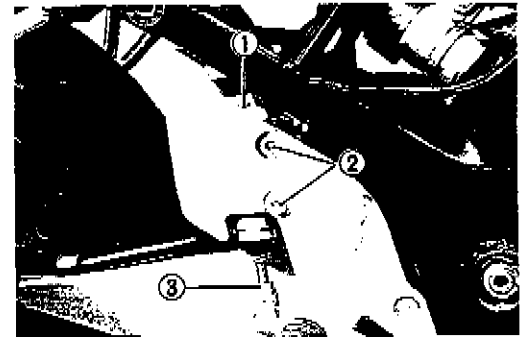
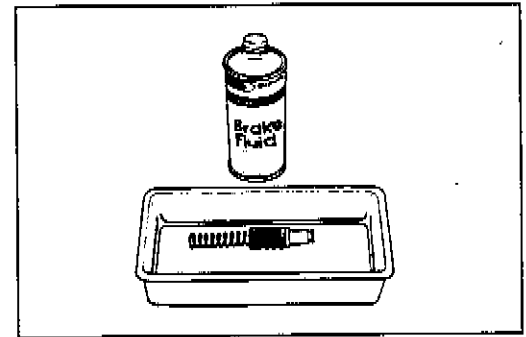
mounting bolt ② : 18–28 N·m
(1.8–2.8 kg·m, 13.0–20.0 lb-ft)

Master cylinder

rod lock nut ③ : 15–20 N·m
(1.5–2.0 kg·m, 11.0–14.5 lb-ft)

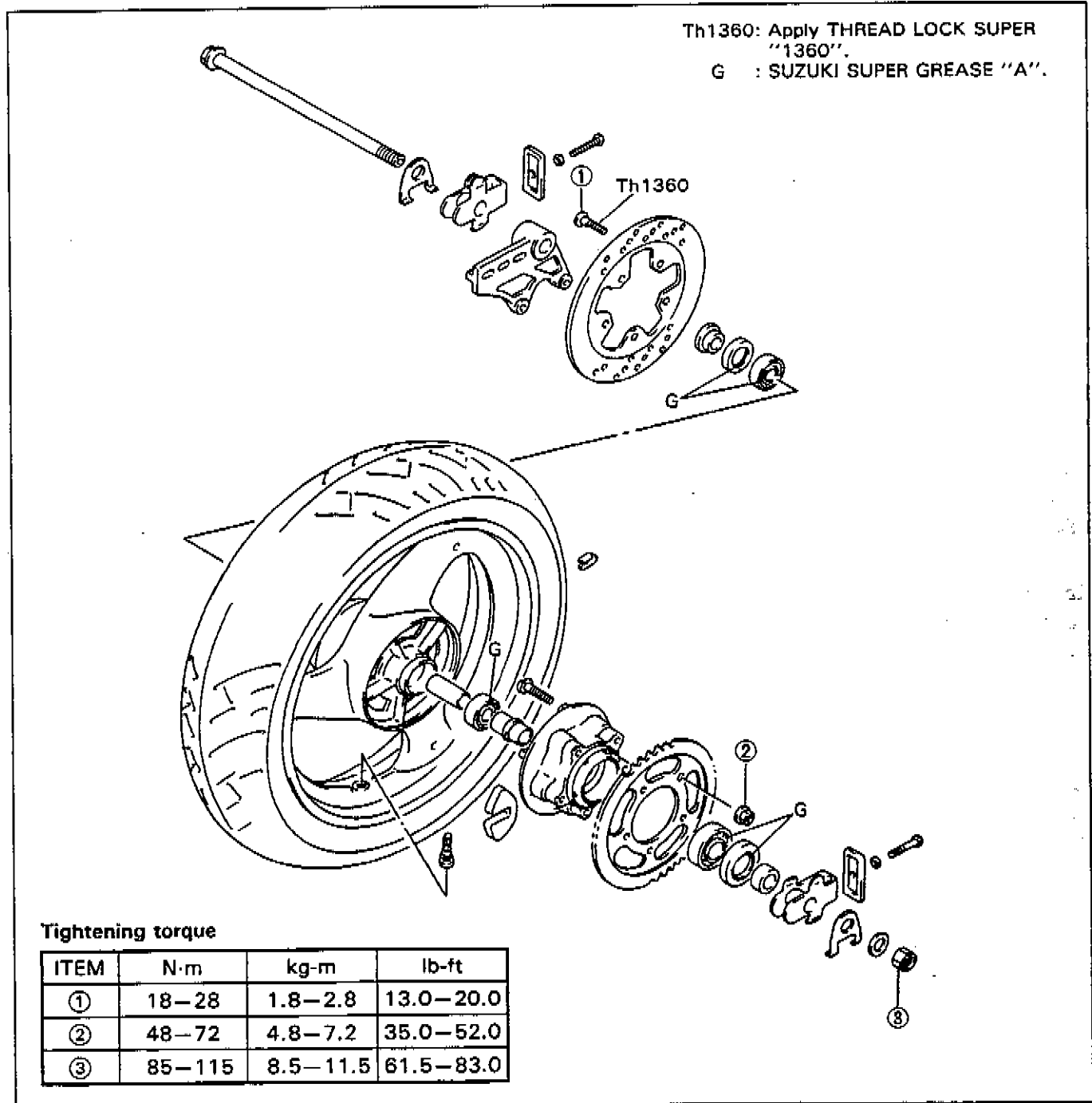
CAUTION:

Bleed air from the system after reassembling master cylinder.
(Refer to page 2-16.)



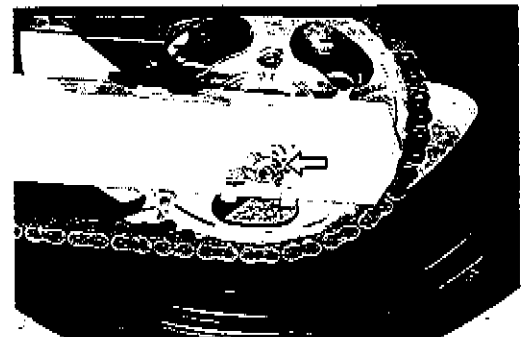
7-41 CHASSIS

REAR WHEEL



REMOVAL AND DISASSEMBLY

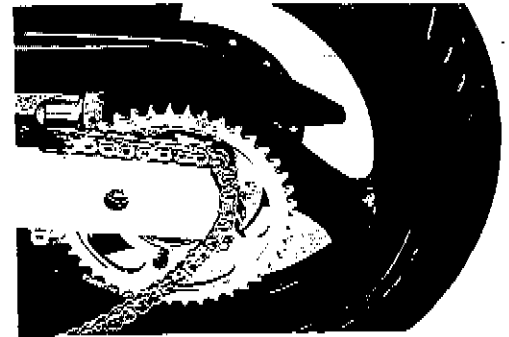
1. Remove the lower cowling of rear. (Refer to page 7-2.)
2. Support the motorcycle with a jack.
3. Remove the axle cotter pin.
4. Remove the axle nut.



5. Draw out the rear axle shaft.
6. Remove the rear wheel by disengaging the drive chain.

CAUTION:

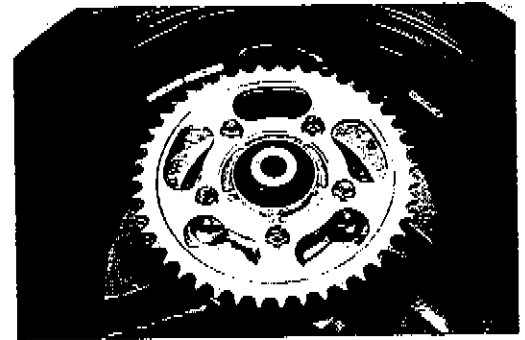
Do not operate the brake pedal while dismounting the brake caliper.



7. Draw out the rear sprocket mounting drum from the wheel.

NOTE:

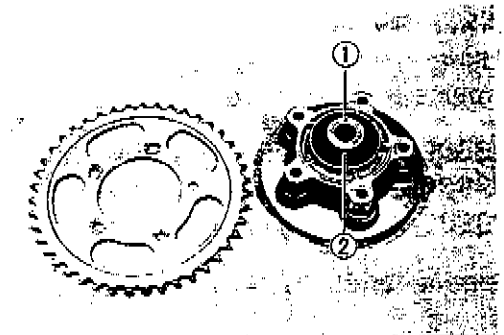
Slightly loosen the rear sprocket mounting nuts to facilitate later disassembly before separate the mounting drum.



8. Separate the rear sprocket from the mounting drum.
9. Remove the spacer ① and dust seal ②.

CAUTION:

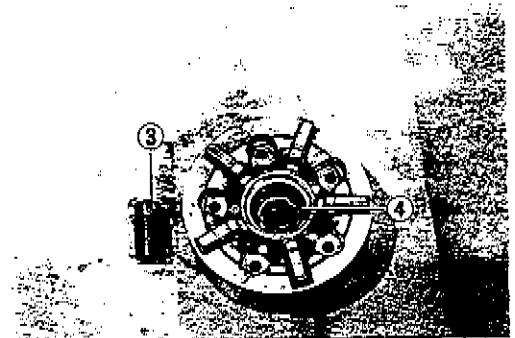
The removed dust seal should be replaced with a new one.



10. Remove the drum retainer ③, draw out the sprocket mounting drum bearing ④ using an appropriate tool.

CAUTION:

The removed bearing should be replaced with a new one.

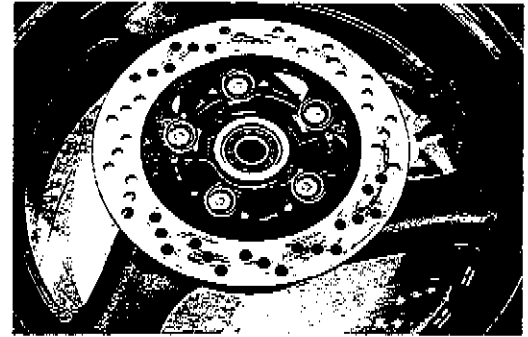


11. Remove the cushions.



7-43 CHASSIS

12. Separate the brake disc from the wheel.

**INSPECTION AND DISASSEMBLY**

TIRE Refer to page 7-12.

WHEEL BEARINGS

Inspect the play of the wheel bearings by hand while they are in the wheel. Rotate the inner race by hand to inspect for abnormal noise and smooth rotation. Replace the bearing if there is anything unusual.

CAUTION:

The removed bearings should be replaced with new ones.

AXLE SHAFT

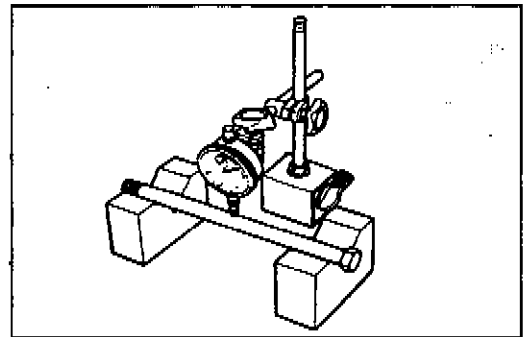
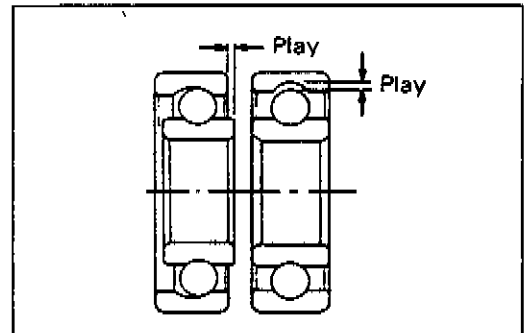
Using a dial gauge, check the axle shaft for runout and replace it if the runout exceeds the limit.

09900-20606: Dial gauge (1/100)

09900-20701: Magnetic stand

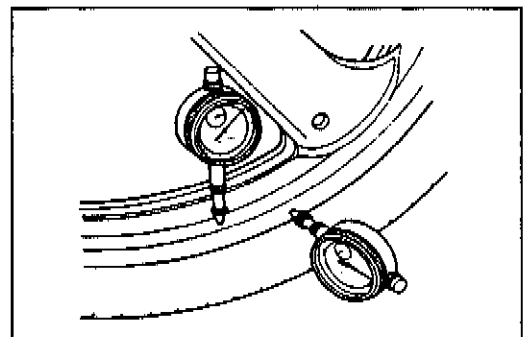
09900-21304: V-block set (100 mm)

Service Limit: 0.25 mm (0.010 in)

**WHEEL**

Make sure that the wheel runout checked as shown does not exceed the service limit. An excessive runout is usually due to worn or loose wheel bearings and can be reduced by replacing the bearings. If bearing replacement fails to reduce the runout, replace the wheel.

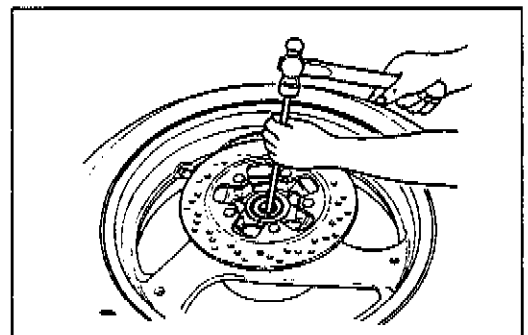
Service Limit (Axial and Radial): 2.0 mm (0.08 in)



Drive out the left and right wheel bearings with an appropriate steel bar.

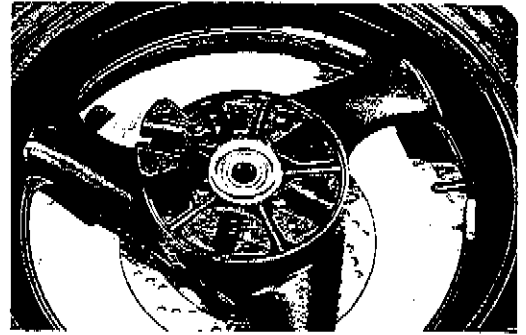
CAUTION:

The removed bearings should be replaced with new ones.

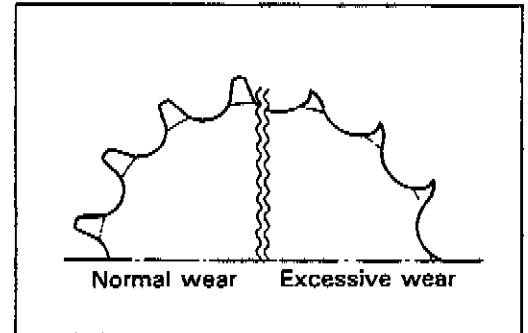


CUSHION

Inspect the cushion for wear and damage.

**SPROCKET**

Inspect the sprocket teeth for wear. If they are worn as shown, replace the sprockets and drive chain as a set.

**REASSEMBLY AND REMOUNTING**

Reassemble and remount the rear wheel in the reverse order of removal and disassembly. Pay attention to the following points:

WHEEL BEARING

- Apply grease to the bearings before installing.

99000-25030: SUZUKI SUPER GREASE "A"

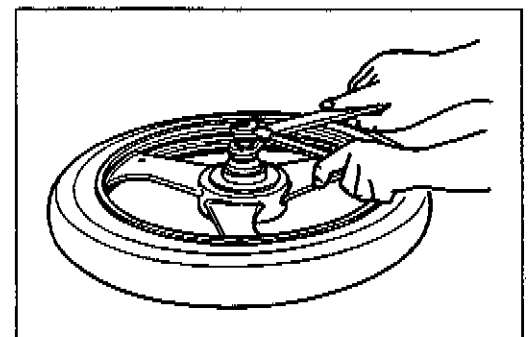


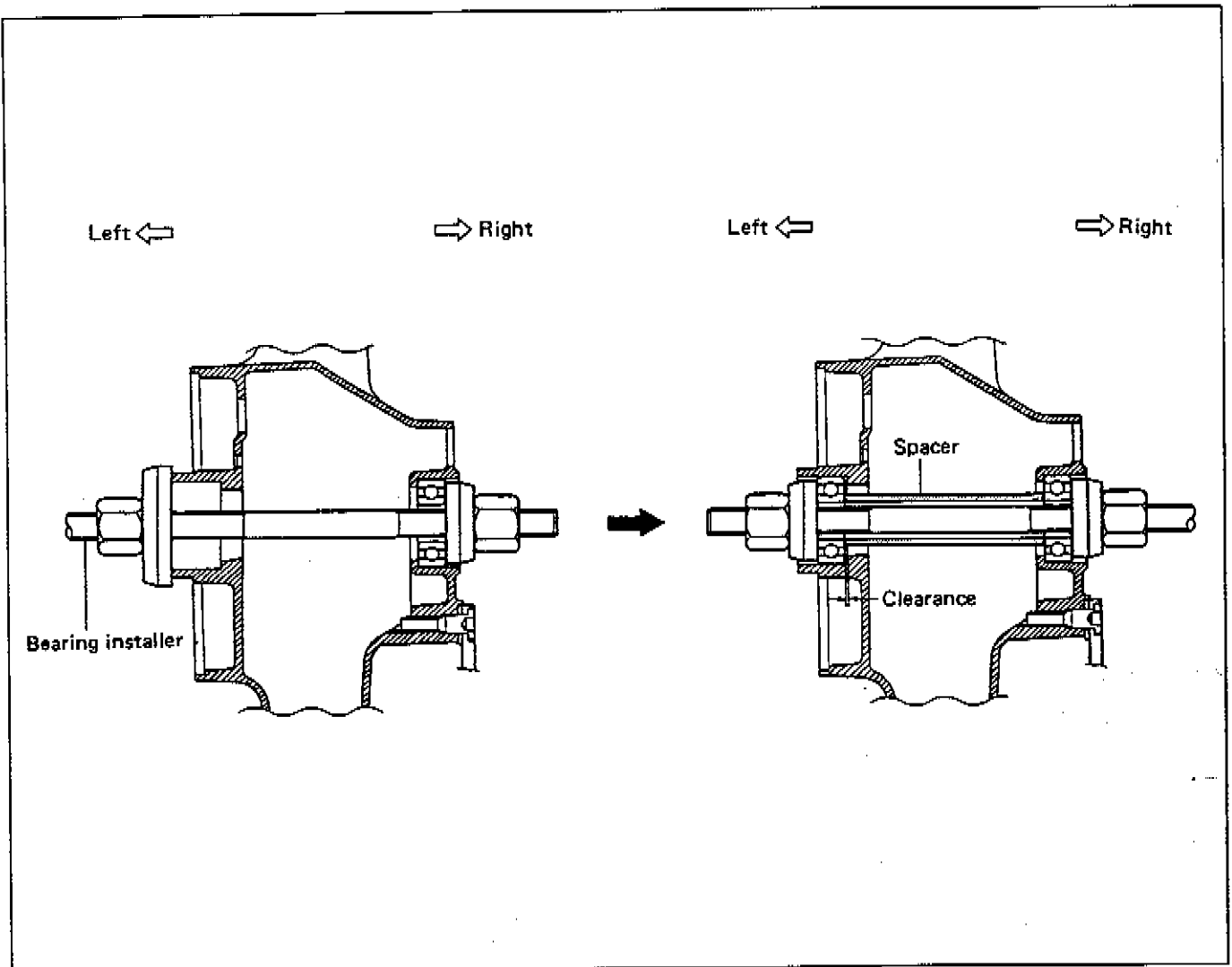
- Install the wheel bearings by using the special tool.

09941-34513: Bearing installer set

NOTE:

First install the right wheel bearing, then install the left wheel bearing. The sealed cover on the bearing is positioned outside. Refer to page 7-45 for details.



7-45 CHASSIS**MOUNTING DRUM BEARING**

- Install the bearing by using the bearing installer.

09913-75520: Bearing installer

NOTE:

Apply grease to the bearing and oil seal lip before assembling rear wheel.

**BRAKE DISC**

- Apply **THREAD LOCK SUPER "1360"** to the disc bolts and tighten them to the specified torque.

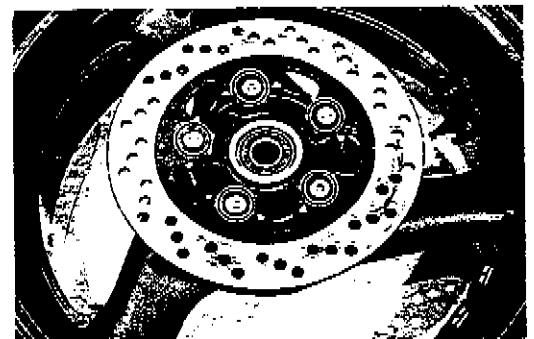
NOTE:

Make sure that the brake disc is clean and free of any greasy matter.

99000-32130: THREAD LOCK SUPER "1360"

Brake disc bolt: 18–28 N·m

(1.8–2.8 kg·m, 13.0–20.0 lb-ft)



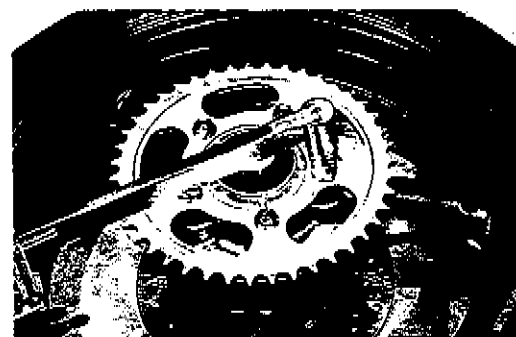
REAR SPROCKET

- Tighten the sprocket mounting nuts to the specified torque.

Rear sprocket nut: **48–72 N·m**
(4.8–7.2 kg·m, 35.0–52.0 lb-ft)

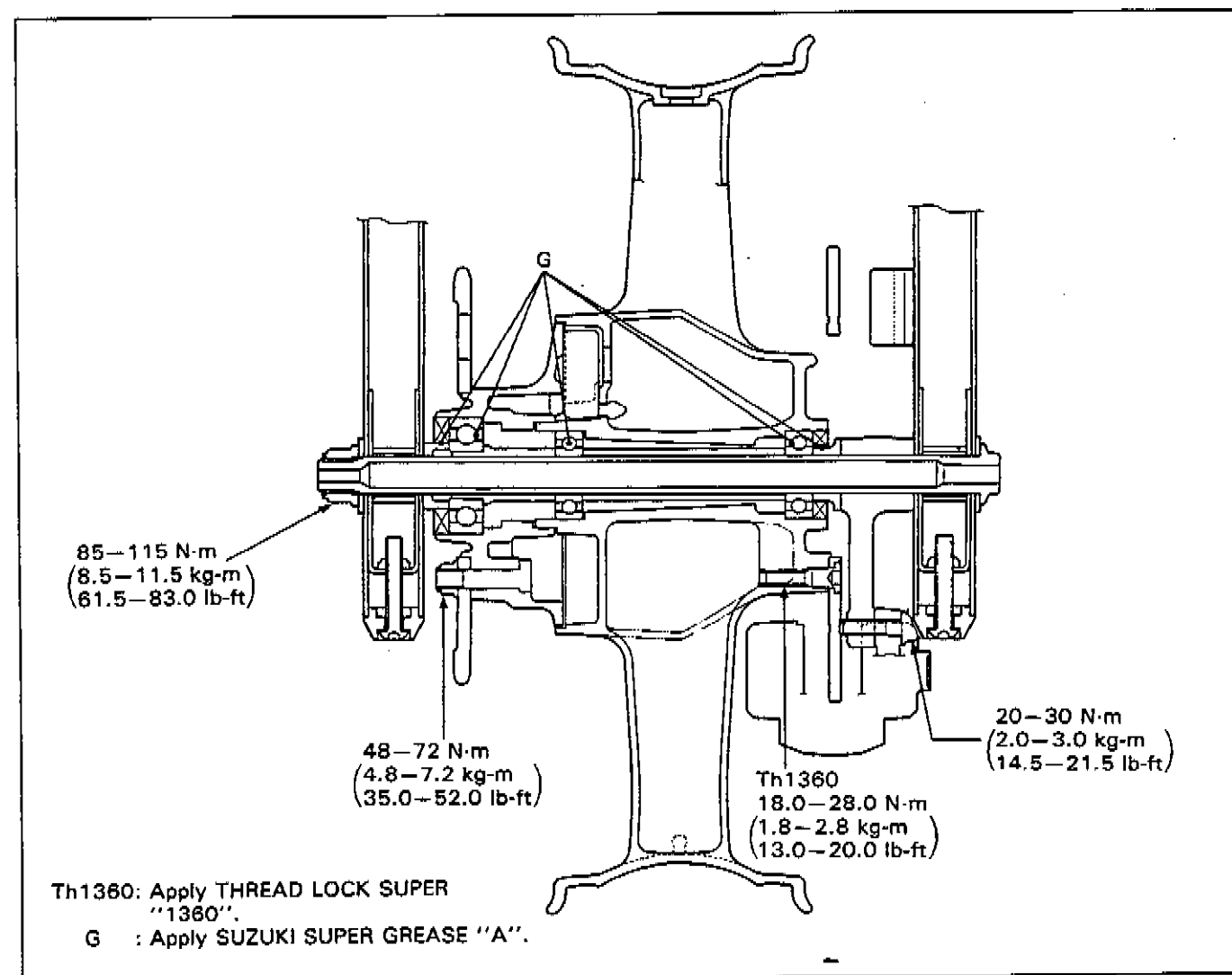
NOTE:

Face the stamped mark on the sprocket to outside.

**REAR AXLE SHAFT**

- Adjust the chain slack after rear wheel installation. (Refer to page 2-12.)
- Tighten the rear axle nut to the specified torque.
- Tighten both chain adjuster bolts securely.

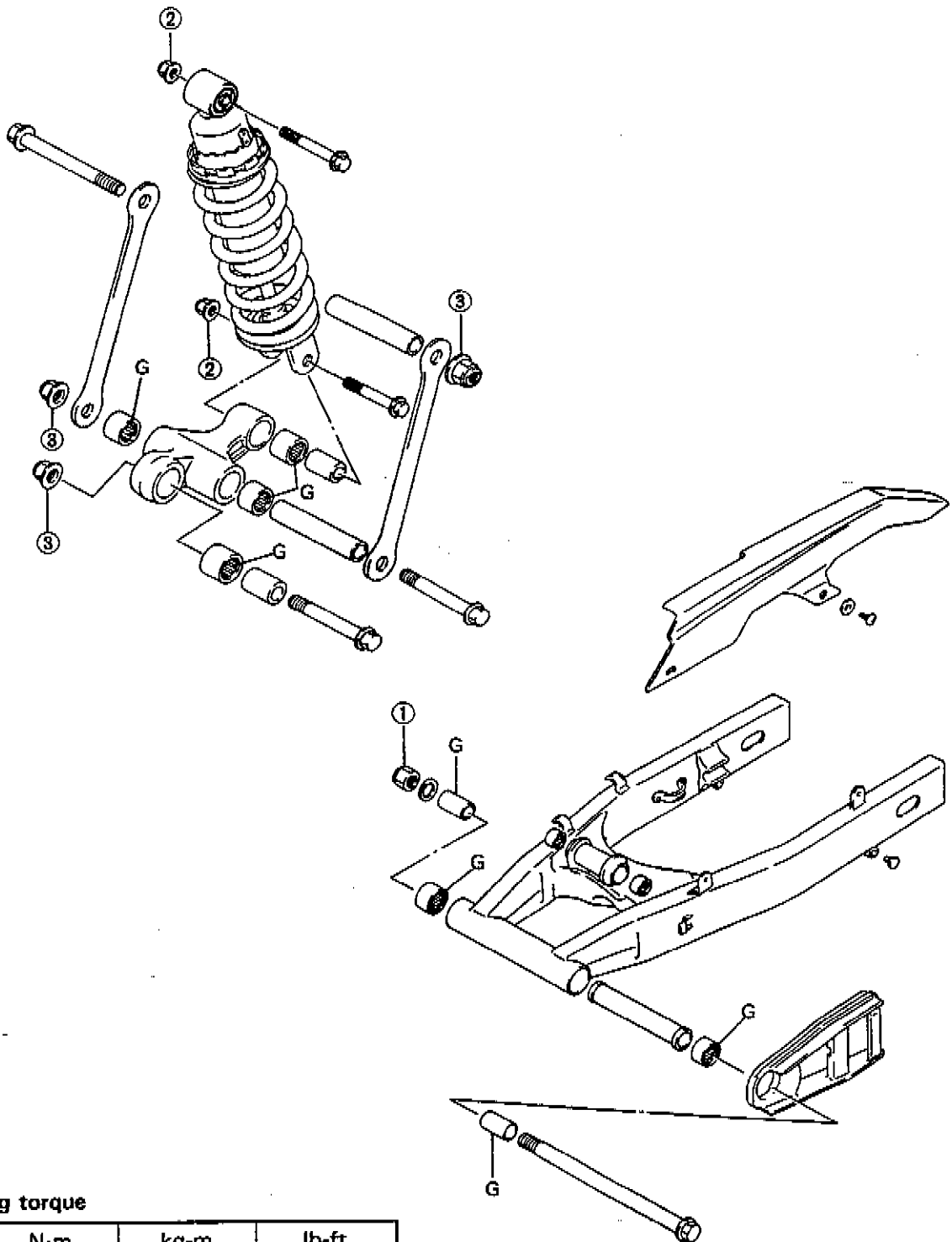
Rear axle nut: **85–115 N·m**
(8.5–11.5 kg·m, 61.5–83.0 lb-ft)



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REAR SUSPENSION

SWINGARM, SHOCK ABSORBER AND CUSHION LEVER



Tightening torque

ITEM	N-m	kg-m	lb-ft
①	85-115	8.5-11.5	61.5-83.0
②	40-60	4.0-6.0	29.0-43.5
③	70-100	7.0-10.0	50.5-72.5

G: Apply SUZUKI SUPER GREASE "A".

REMOVAL

1. Remove the seats and frame covers. (Refer to page 7-5.)
2. Remove the rear wheel. (Refer to page 7-41.)
3. Remove the rear brake hose union bolt.

CAUTION:

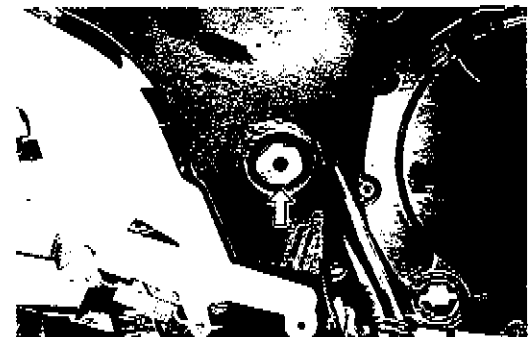
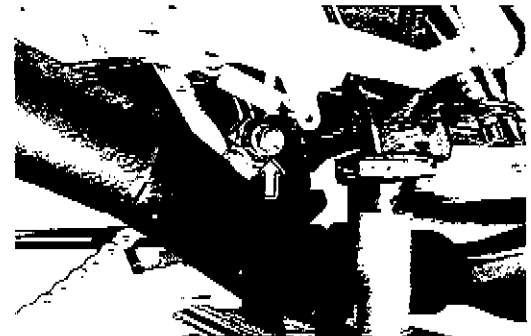
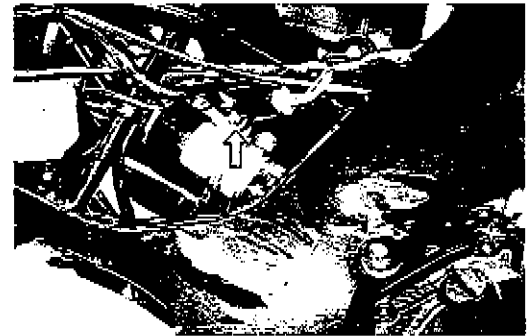
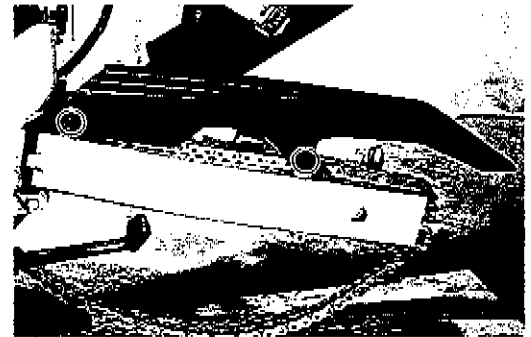
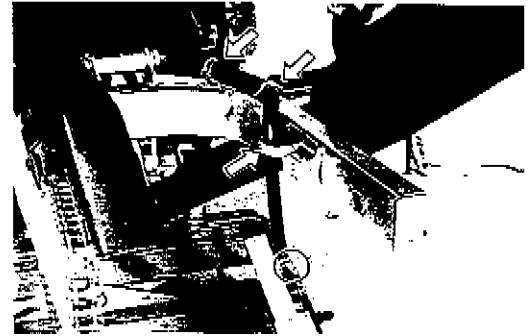
Completely wipe off any brake fluid adhering to any part of motorcycle. The fluid reacts chemically with paint, plastics, rubber materials, etc.

4. Remove the brake hose from the brake hose guides at inside of swingarm.
5. Remove the chain case.

6. Remove the shock absorber upper mounting nut and bolt.

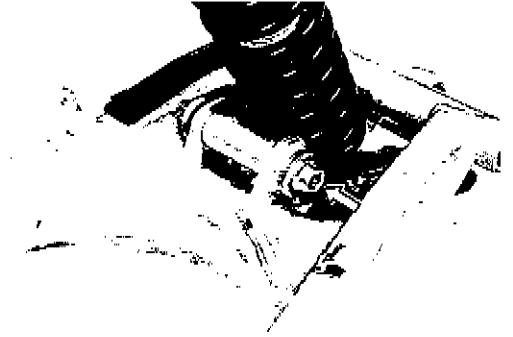
7. Remove the cushion lever mounting nut and bolt.

8. Remove the caps.
9. Remove the swingarm pivot shaft by removing the pivot shaft nut.
10. Remove the rear suspension assembly.



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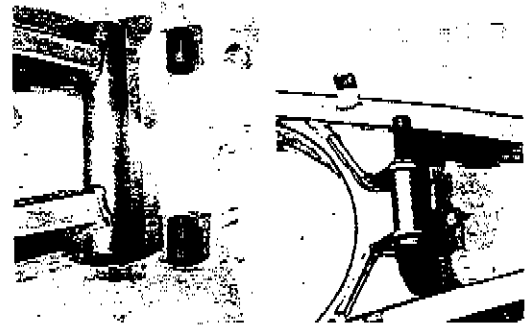
11. Remove the cushion rod mounting nut and bolt.



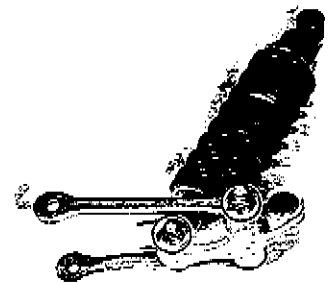
12. Remove the chain buffer.



13. Remove the spacers from swingarm.



14. Remove the rear shock absorber and cushion rods.



15. Remove the cushion lever spacers.



INSPECTION AND DISASSEMBLY

SWINGARM

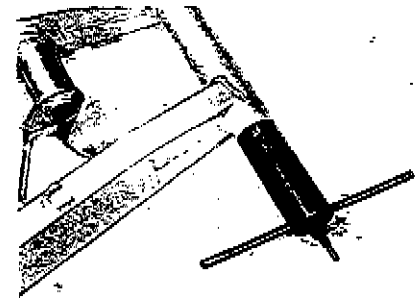
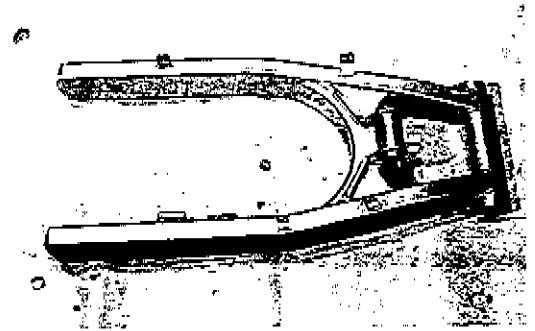
Inspect the spacer for any flaws or other damage.
 Inspect the swingarm for wear or damage.
 Insert the spacer into bearing and check the play to move the spacer up and down.
 If excessive play is noted, replace the bearing with a new one.

Draw out the swingarm bearings with the special tool.

09941-44510: Swingarm bearing remover

CAUTION:

The removed bearings should be replaced with new ones.



CUSHION LEVER

Inspect the spacer for any flaws or other damage.
 Insert the spacer into bearing and check the play to move the spacer up and down. If an excessive play is noted, replace the bearing with a new one.

Draw out the bearing with the special tools.

09923-73210: Bearing puller

09930-30102: Sliding shaft

CAUTION:

The removed bearings should be replaced with new ones.

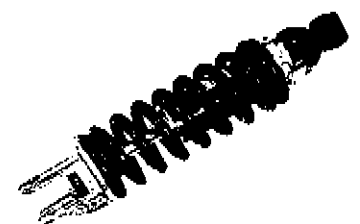


SHOCK ABSORBER

Inspect the shock absorber body for damage and oil leakage. If any defects are found, replace the shock absorber with new one.

CAUTION:

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



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SWINGARM PIVOT SHAFT

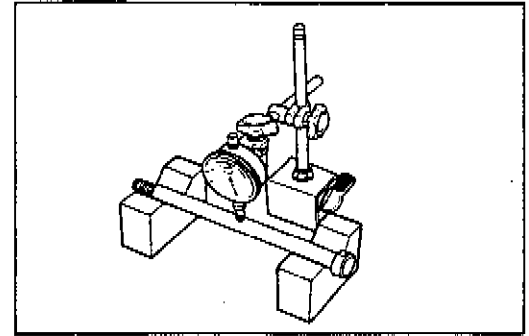
Using a dial gauge, check the pivot shaft runout and replace it if the runout exceeds the limit.

09900-20606: Dial gauge (1/100 mm, 10 mm)

09900-20701: Magnetic stand

09900-21304: V-block (100 mm)

Service Limit: 0.3 mm (0.01 in)



CHAIN BUFFER

Inspect the chain buffer for wear and damage.

If any defects are found, replace the chain buffer with a new one.



REASSEMBLY AND REMOUNTING

Reassemble and remount the swingarm and shock absorber in the reverse order of removal and disassembly, and also carry out the following steps:

SWINGARM BEARING

- Press the bearing into the swingarm pivot by using the special tool.

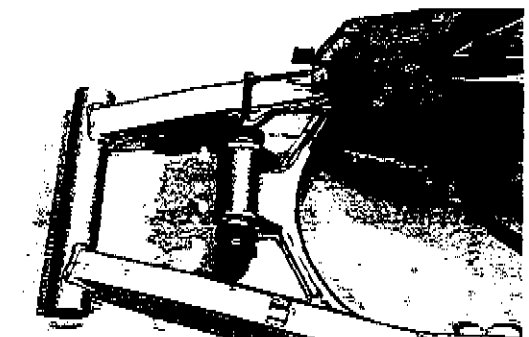
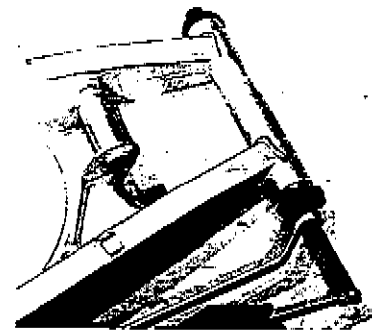
09941-34513: Steering race installer

NOTE:

When reinstalling the bearing, stamped mark of bearing is positioned outside.

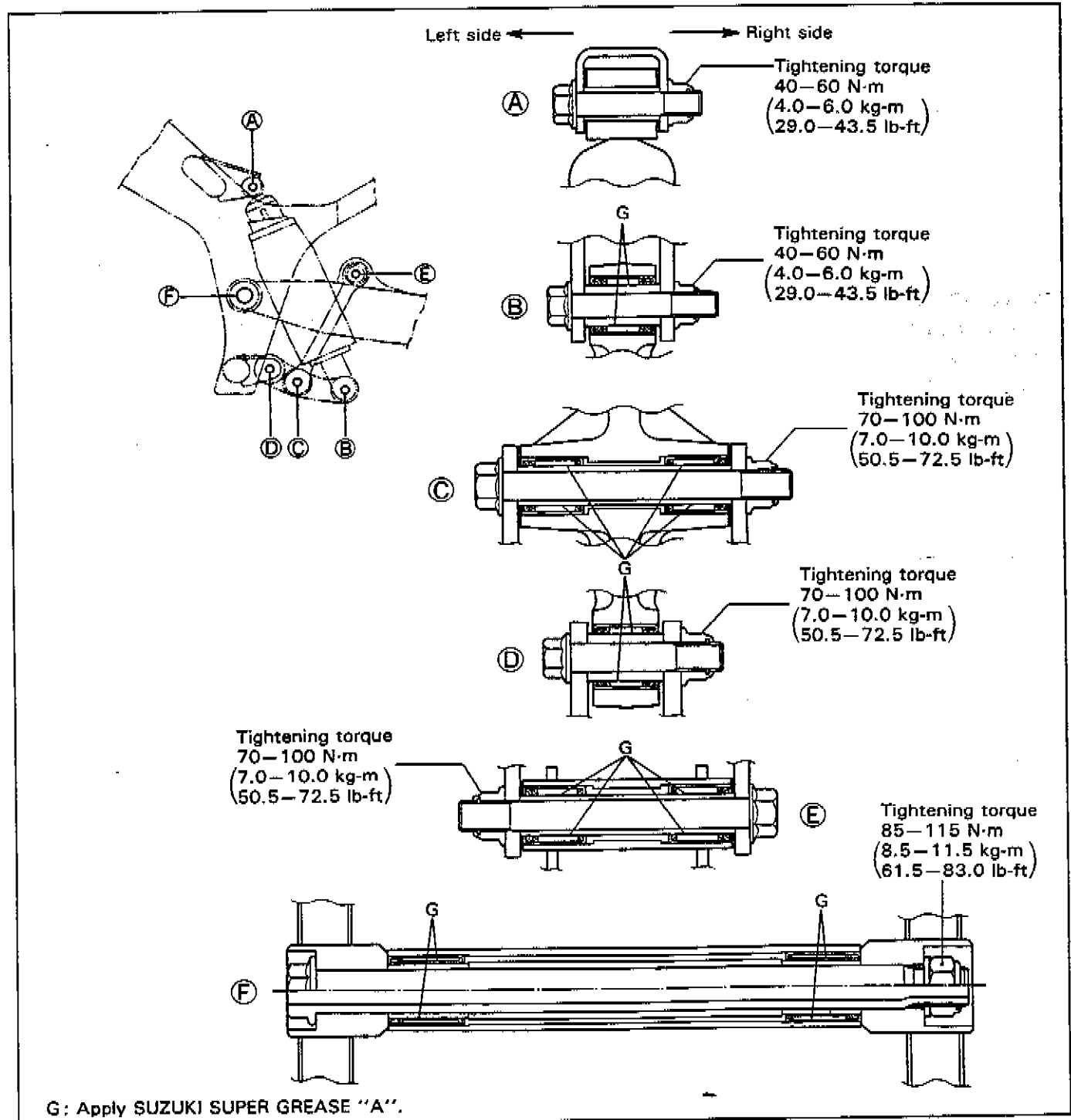
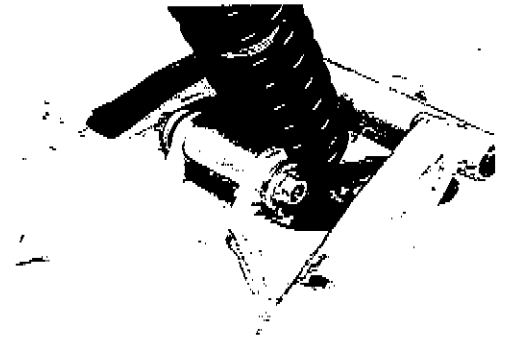
- Apply grease to the spacers and bearings.

99000-25030: SUZUKI SUPER GREASE "A"



REASSEMBLY ONTO FRAME

- First of all assemble the shock absorber, cushion lever and cushion rods onto the swingarm.



7-53 CHASSIS**FINAL INSPECTION AND ADJUSTMENT**

After installing the rear suspension and wheel, the following adjustments are required before driving.

- * Drive chain
- * Rear brake
- * Tire pressure
- * Chassis bolts and nuts
- * Shock absorber

SUSPENSION SETTING

After installing the rear suspension, adjust the spring pre-load and rebound damping force as follows.

REBOUND DAMPING FORCE ADJUSTMENT

The set position "4" provides the stiffest rebound damping force.

The set position "1" provides the softest rebound damping force.

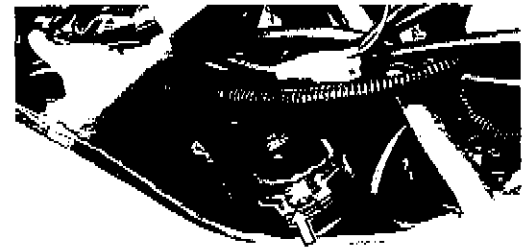
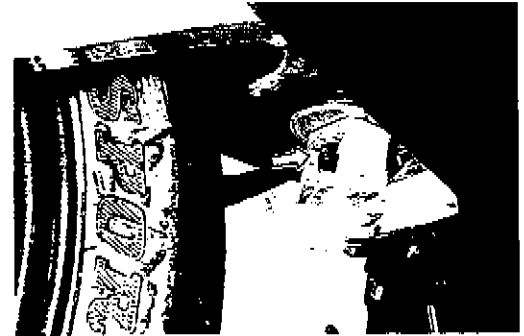
(STD position: "2")

SPRING PRE-LOAD ADJUSTMENT

The set position "7" provides the stiffest spring pre-load.

The set position "1" provides the softest spring pre-load.

(STD position: "3")

**REAR SUSPENSION SETTING**

Item		Spring set position	Damping force (Rebound)
Solo riding	Softer	2	1
	Standard	3	2
	Stiffer	4	3
Dual riding		4	4