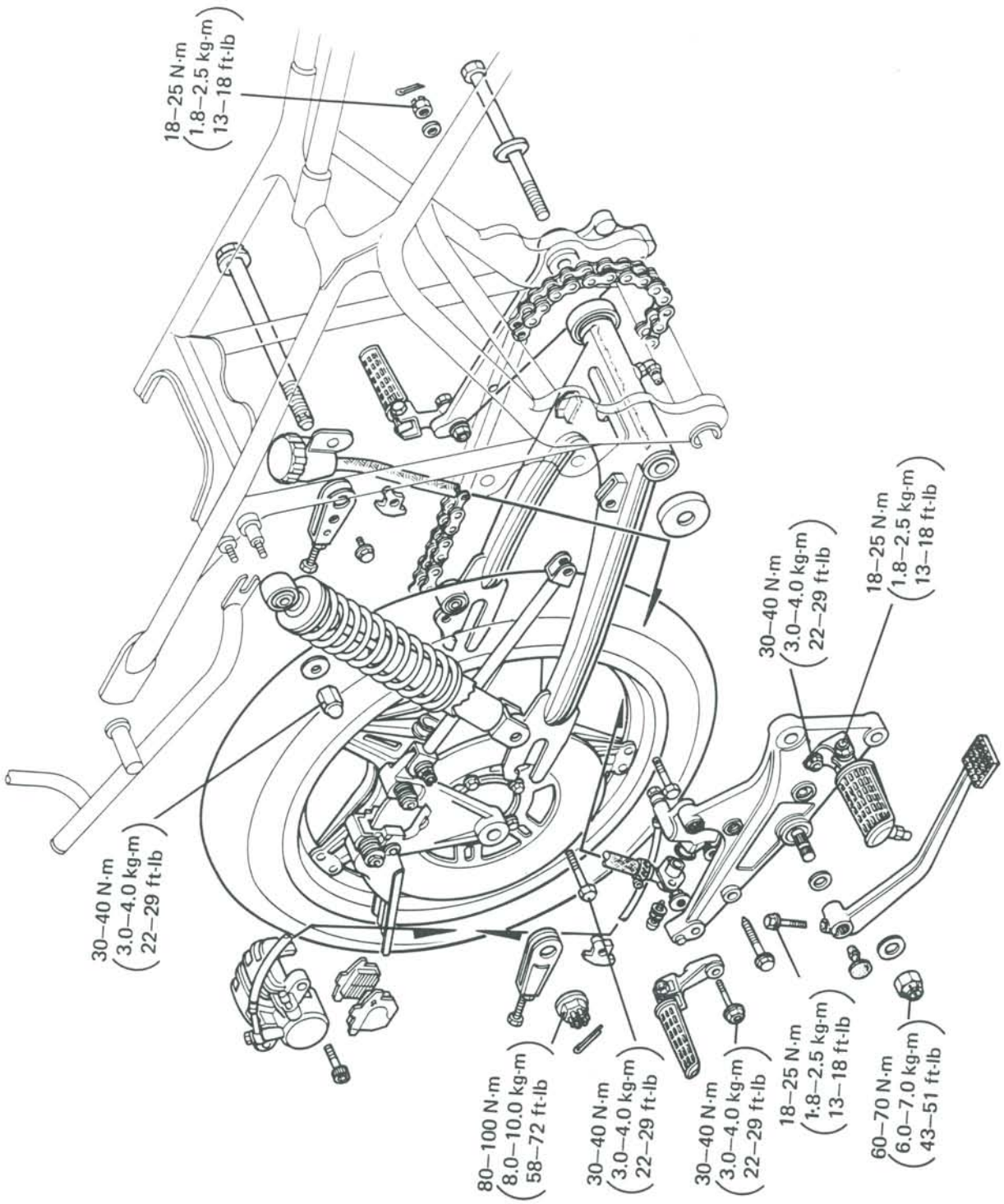
REAR WHEEL/SUSPENSION

ROUE/SUSPENSION ARRIERE

HINTERRAD/AUFHÄNGUNG

RUEDA TRASERA/ SUSPENSION


18–25 N·m
(1.8–2.5 kg-m
13–18 ft-lb
30–40 N·m
(3.0–4.0 kg-m
22–29 ft-lb
80–100 N·m
(8.0–10.0 kg-m
58–72 ft-lb
30–40 N·m
(3.0–4.0 kg-m
22–29 ft-lb
30–40 N·m
(3.0–4.0 kg-m
22–29 ft-lb
18–25 N·m
(1.8–2.5 kg-m
13–18 ft-lb
60–70 N·m
(6.0–7.0 kg-m
43–51 ft-lb
30–40 N·m
(3.0–4.0 kg-m
22–29 ft-lb
18–25 N·m
(1.8–2.5 kg-m
13–18 ft-lb

SERVICE INFORMATION	14–1
TROUBLESHOOTING	14–1
REAR WHEEL	14–2
SHOCK ABSORBER	14–7
SWING ARM	14–11

SERVICE INFORMATION

WORKING PRACTICE

The rear wheel uses a tubeless tire. For tubeless tire repairs, refer to the TUBELESS TIRE MANUAL, code No. 6141550.
Do not remove rivets, nuts and pins from the rim, spoke plate and hub.
Never ride on the rim or try to bend wheel.
Avoid damaging the aluminum alloy rim.

SPECIAL TOOLS

Common Tools

Bearing Driver Handle (A)	07749–0010000
Bearing Driver Outer (62 x 68 mm)	07746–0010500
Bearing Driver Outer (52 x 55 mm)	07746–0010400
Bearing Driver Pilot (20 mm)	07746–0040500
Bearing Driver Pilot (25 mm)	07746–0040600
Rear Cushion Compressor	07959–3290001
Retainer Wrench Body	07710–0010400
Retainer Wrench A.	07710–0010100

TORQUE VALES

Rear brake disc	27– 33 N·m	(2.7–3.3 kg-m, 20–24 ft-lb)
Driven sprocket	80–100 N·m	(8.0–10.0 kg-m, 58–72 ft-lb)
Rear axle	80–100 N·m	(8.0–10.0 kg-m, 58–72 ft-lb)
Rear shock absorber	30– 40 N·m	(3.0–4.0 kg-m, 22–29 ft-lb)
Swing arm pivot bolt	60– 70 N·m	(6.0–7.0 kg-m, 43–51 ft-lb)
Rear brake rod nut	18– 25 N·m	(1.8–2.5 kg-m, 13–18 ft-lb)

SPECIFICATIONS

		STANDARD	SERVICE LIMIT
Axle runout		———	0.2 mm (0.008 in)
Rear wheel rim runout	Radial	———	2.0 mm (0.08 in)
	Axial	———	2.0 mm (0.08 in)
Shock absorber spring free length		254.2 mm (10.0 in)	249.5 mm (9.82 in)
Swing arm bushing	I.D.	21.500–21.552 mm (0.8465–0.8485 in)	21.7 mm (0.854 in)
Swing arm collar	O.D.	21.427–21.460 mm (0.8436–0.8449 in)	21.4 mm (0.843 in)

TROUBLESHOOTING

Wobble or Vibration in Motorcycle
1. Distorted rim
2. Loose wheel bearing
3. Loose or distorted spokes
4. Faulty tire
5. Loose axle
6. Tire pressure incorrect
7. Swing arm bushing worn

Soft Suspension
1. Weak spring
2. Shock absorber improperly adjusted

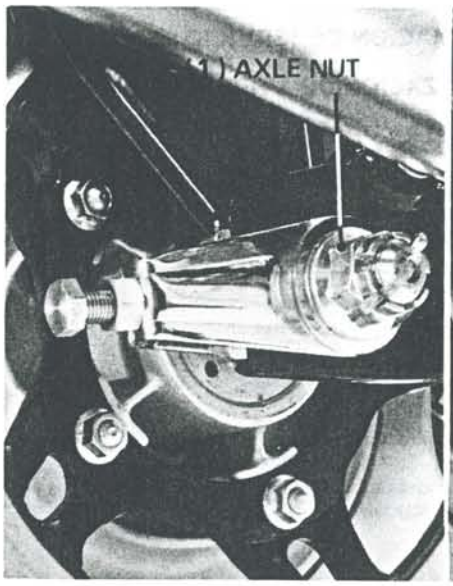
Hard Suspension
1. Shock absorbers improperly adjusted
2. Bent shock absorber

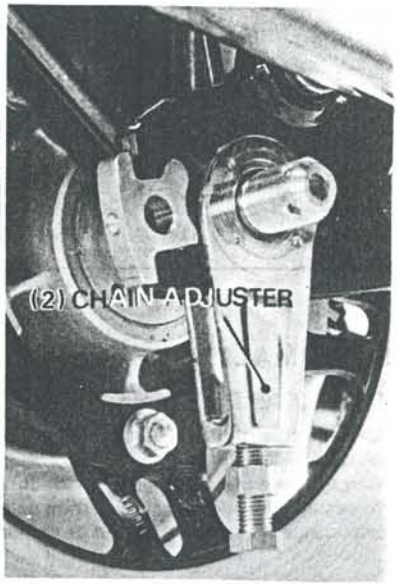
Suspension Noise
1. Shock case binding
2. Loose fasteners

REAR WHEEL

REAR WHEEL REMOVAL

Place the motorcycle on its center stand.
Loosen the drive chain adjuster lock nuts and bolts.
Remove the cotter pin from the rear axle and loosen the nut.
Pull the adjusters down, push the wheel forward and remove the drive chain from the drive sprocket.
Remove the rear wheel.
Remove the rear axle.





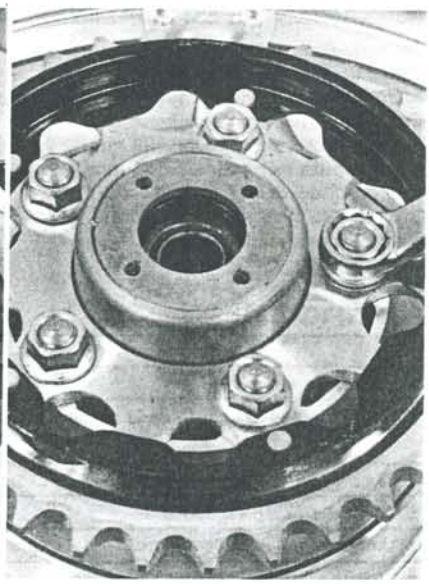
'OTE

Do not operate the rear brake pedal after removing the rear wheel.
To do so will cause difficulty in refitting the brake disc between the brake pads.

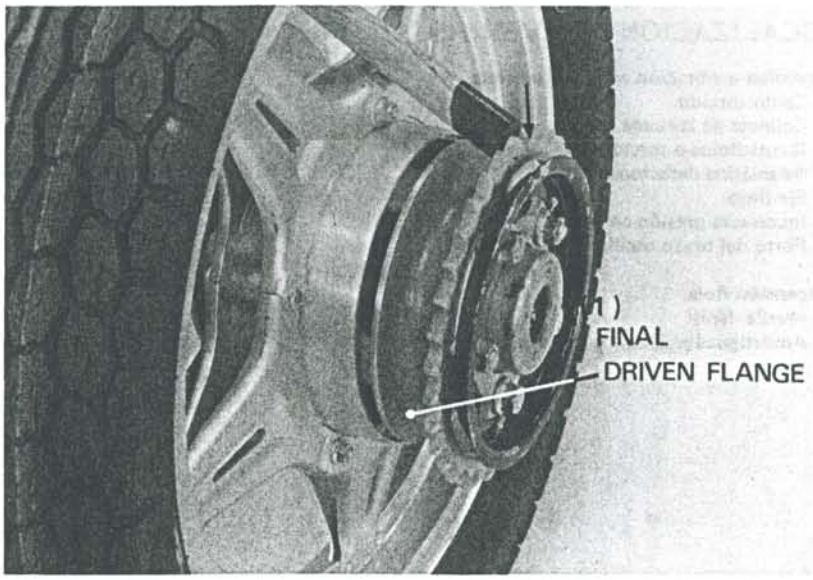
REAR WHEEL DISASSEMBLY

Remove the rear disc.
Loosen the driven sprocket nuts.

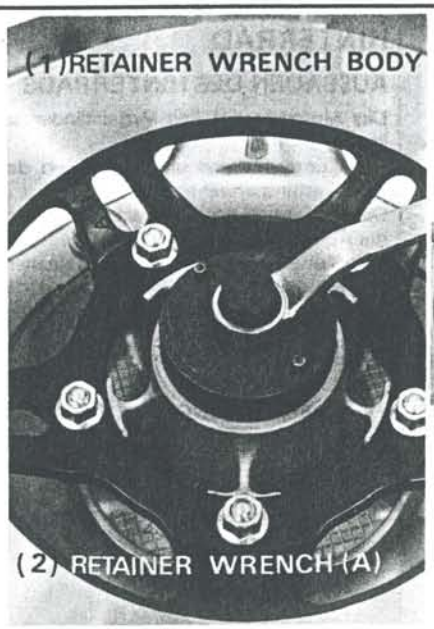


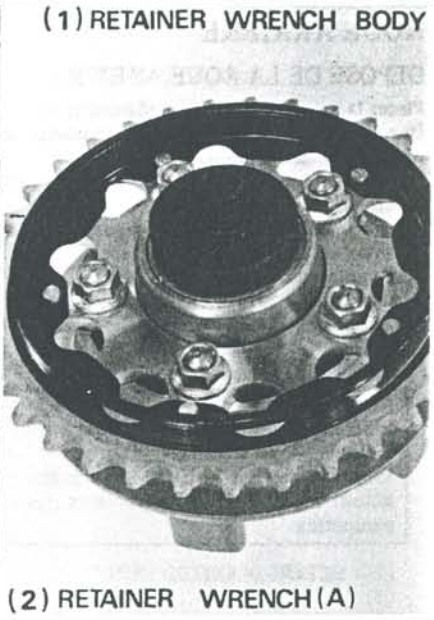


Remove the driven flange from the wheel hub.
Remove the driven sprocket.



Remove the bearing retainer.

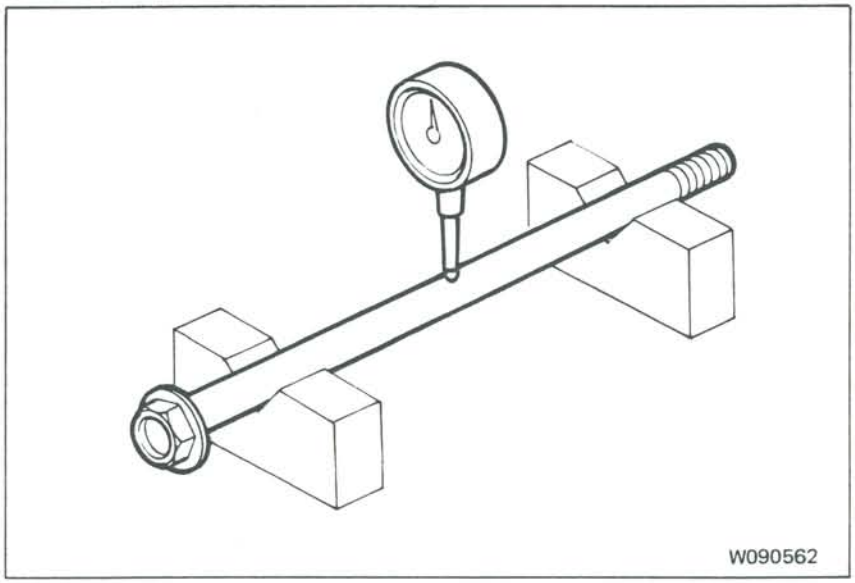




AXLE INSPECTION

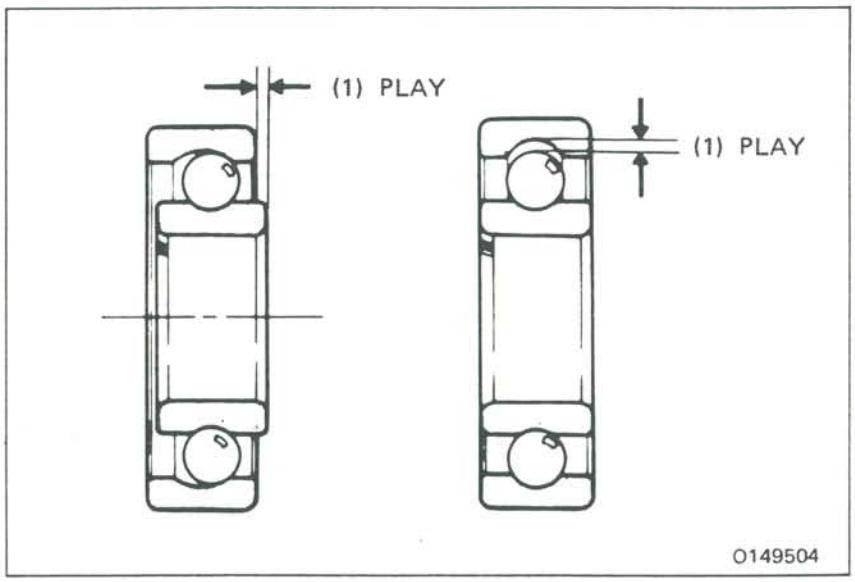
Set the axle in V blocks and read the axle runout.
The actual axle runout is 1/2 of TIR (Total Indicator Reading).

SERVICE LIMIT: 0.2 mm (0.008 in)



REAR WHEEL BEARING PLAY INSPECTION

Check the wheel bearing play by rotating the wheel by hand. Replace the bearing with new ones if they are noisy or have excessive play.



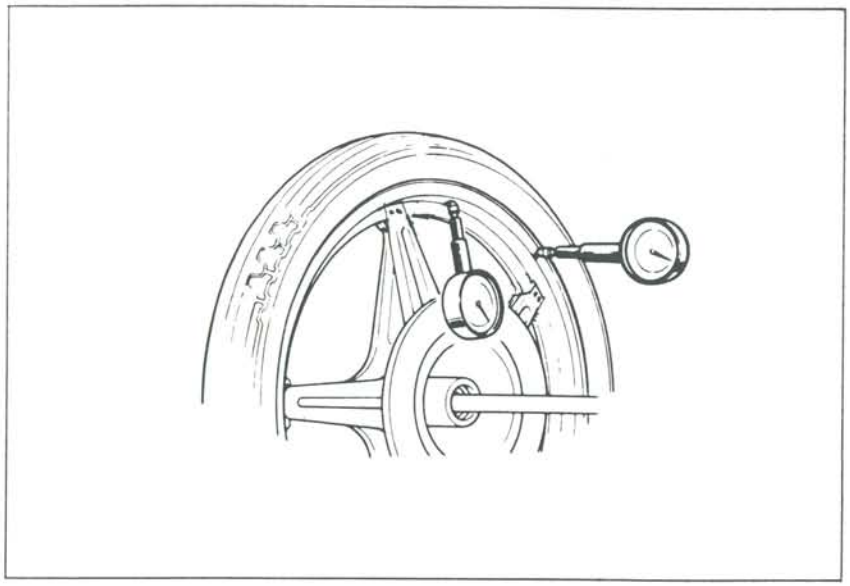
REAR WHEEL RIM RUNOUT INSPECTION

Check the rim for runout by placing the wheel in a truing stand. Spin the wheel slowly, and read the runout using a dial indicator.

SERVICE LIMITS:
RADIAL RUNOUT: 2.0 mm (0.08 in)
AXIAL RUNOUT: 2.0 mm (0.08 in)

NOTE

The COMSTAR WHEEL cannot be serviced and must be replaced if the above limits are exceeded.

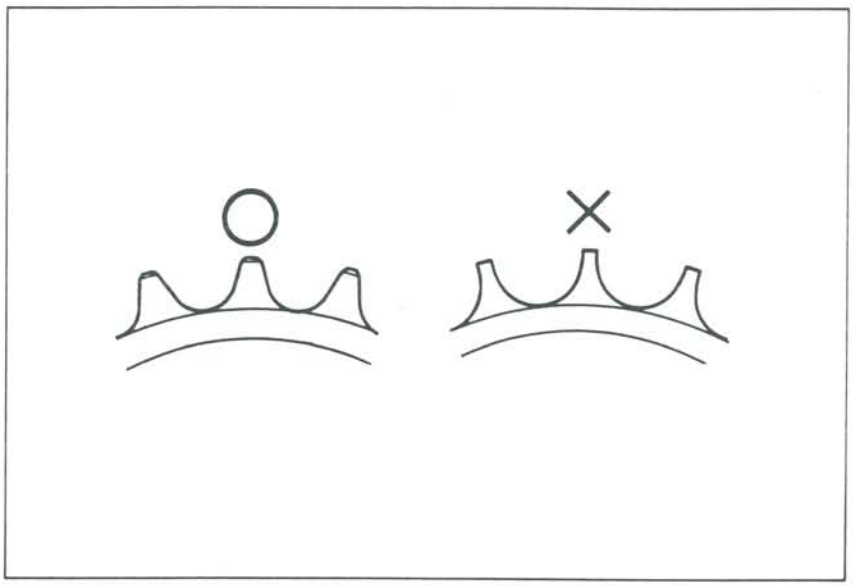


FINAL DRIVEN SPROCKET INSEPCTION

Check the condition of the final driven sprocket teeth.
Replace the sprocket if worn or distorted.

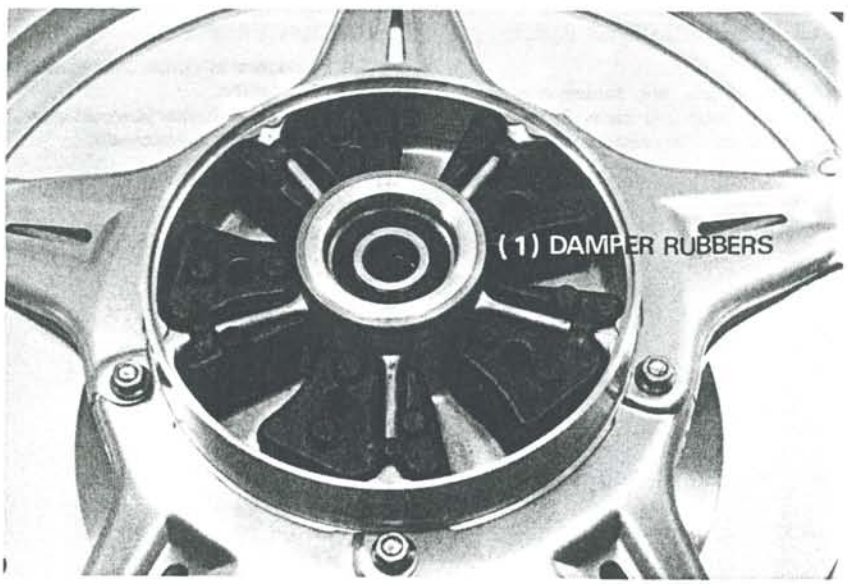
NOTE

If the final driven sprocket requires replacement, inspect the drive chain and drive sprocket. (See 3–16)



DAMPER RUBBER INSPECTION

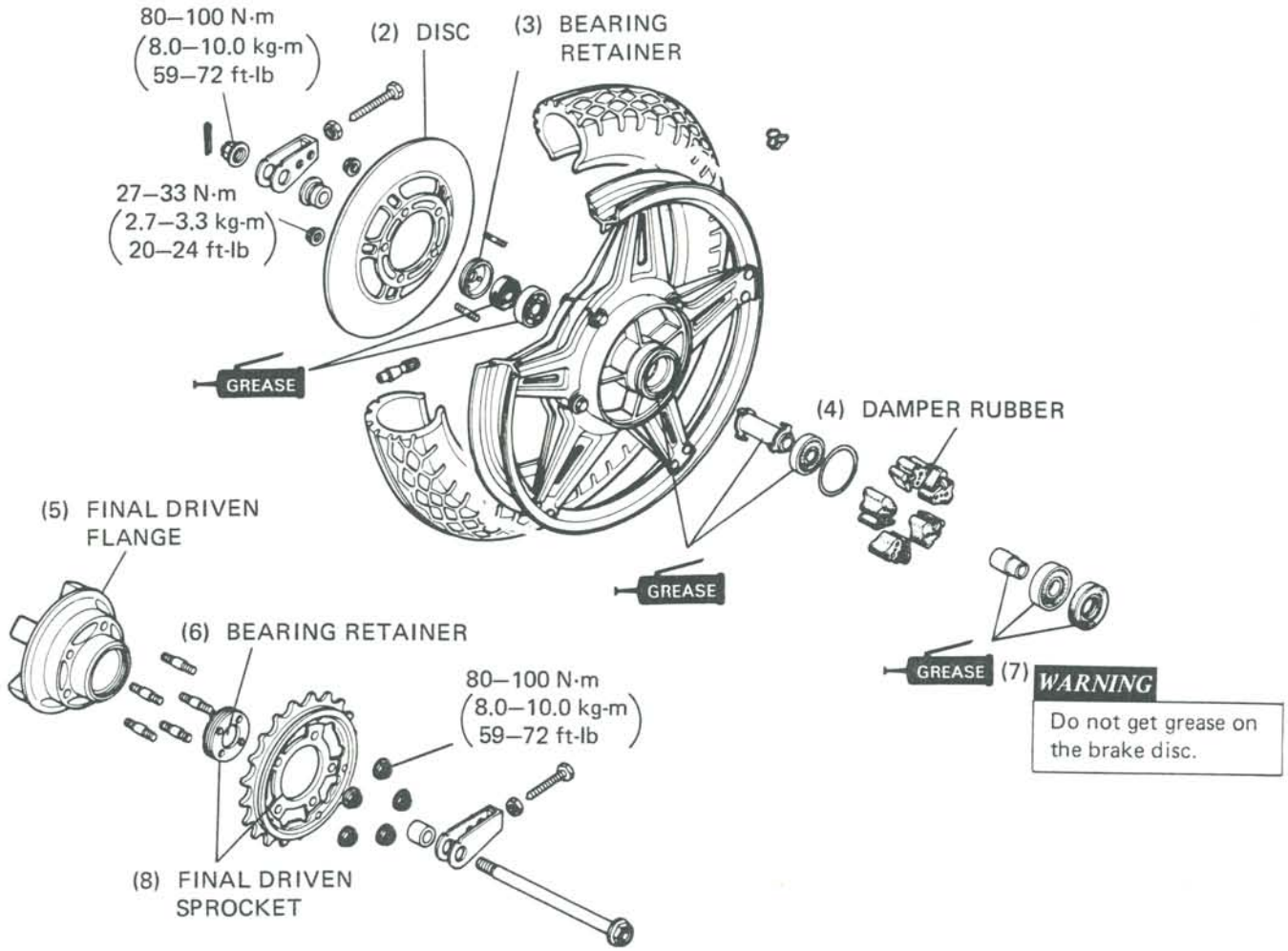
Replace the damper rubbers if they are damaged or deteriorated.



REAR WHEEL ASSEMBLY

(1) NOTE

The rear wheel uses a tubeless tire. For tubeless tire repairs, refer to TUBELESS TIRE MANUAL.



WARNING

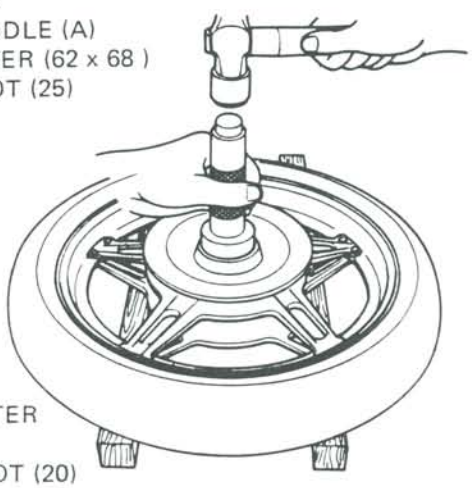
Do not get grease on the brake disc.

Pack all bearing cavities with grease.
Press the distance collar into place from the left side.
Drive the right ball bearing first, then the left ball bearing.

CAUTION

Drive the bearings squarely.
Install the bearings with the sealed end facing out, making sure they are fully seated.

(1) DRIVEN FLANGE SIDE:
BEARING DRIVER HANDLE (A)
BEARING DRIVER OUTER (62 x 68)
BEARING DRIVER PILOT (25)

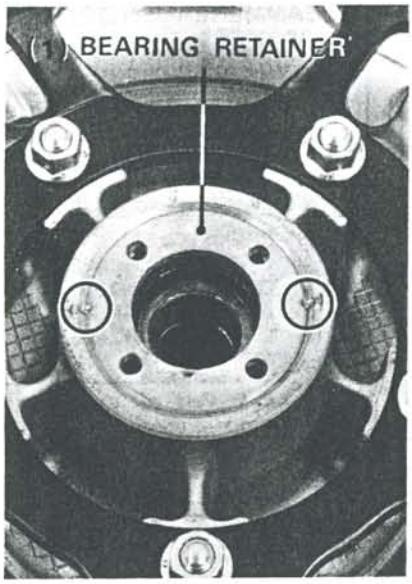


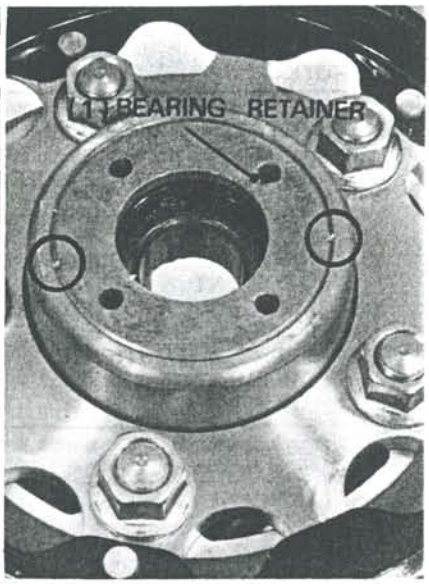
(2) WHEEL HUB SIDE:
BEARING DRIVER OUTER (52 x 55)
BEARING DRIVER PILOT (20)

Install the bearing retainer with the same tool that was used to remove it. Peen it to the hub.

NOTE

Check the condition of the bearing retainer.
If the threads are damaged, the retainer should be replaced.

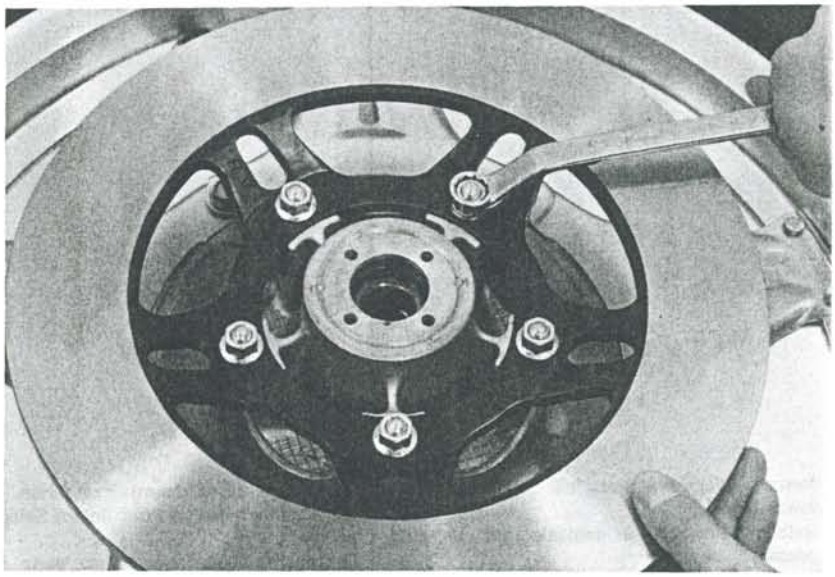




nstall the rear brake disc and nut.

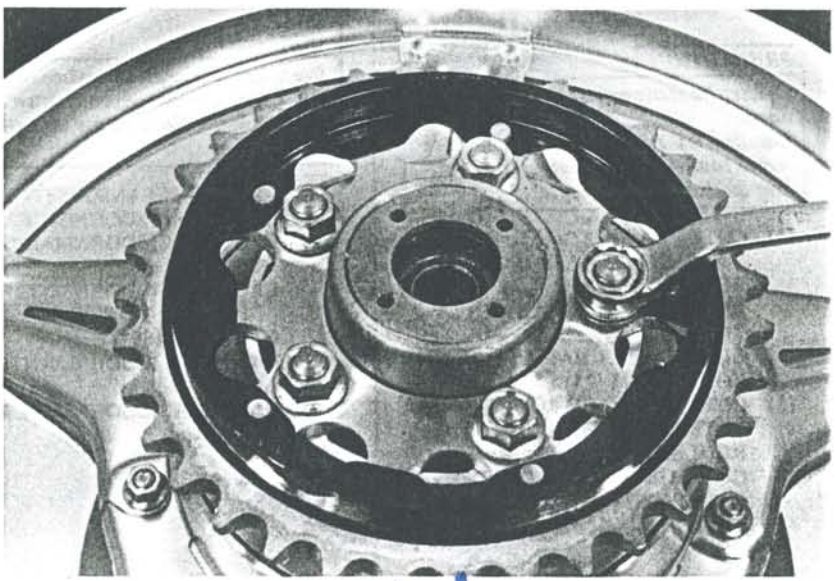
TORQUE: 27–33 N·m
(2.7–3.3 kg-m, 20–24 ft-lb)

Clean the brake disc with a high quality degreasing agent.



Install the final driven sprocket.

TORQUE: 80–100 N·m
(8.0–10.0 kg-m, 58–72 ft-lb)



REAR WHEEL INSTALLATION

Install the rear wheel in the reverse order of removal.

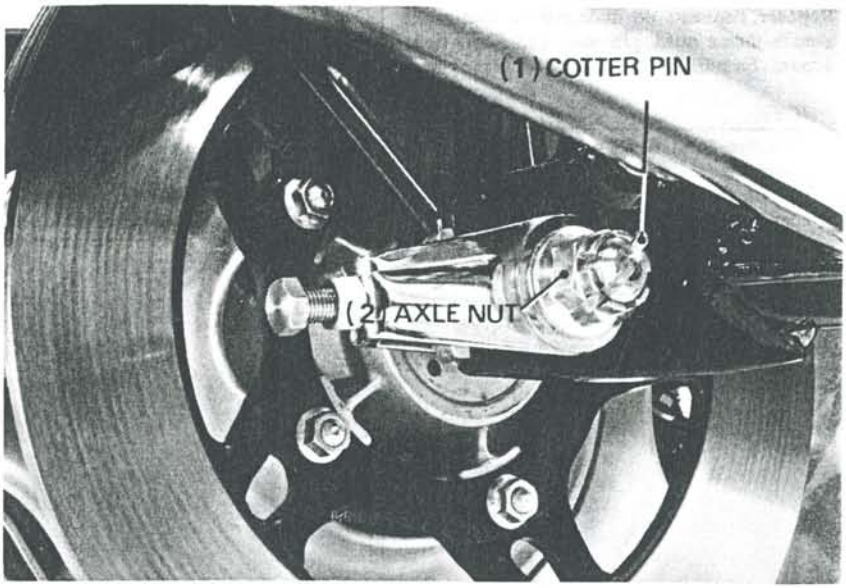
NOTE

- When installing the wheel, fit the brake disc between the brake pads carefully.
- After installing the wheel, apply the brakes several times and then check if the wheel rotates freely. Recheck the wheel if the brake drags or if the wheel does not rotate freely.

Use a new cotter pin for securing the axle nut.

TORQUE: 80–100 N·m (8.0–10.0 kg-m, 58–72 ft-lb)

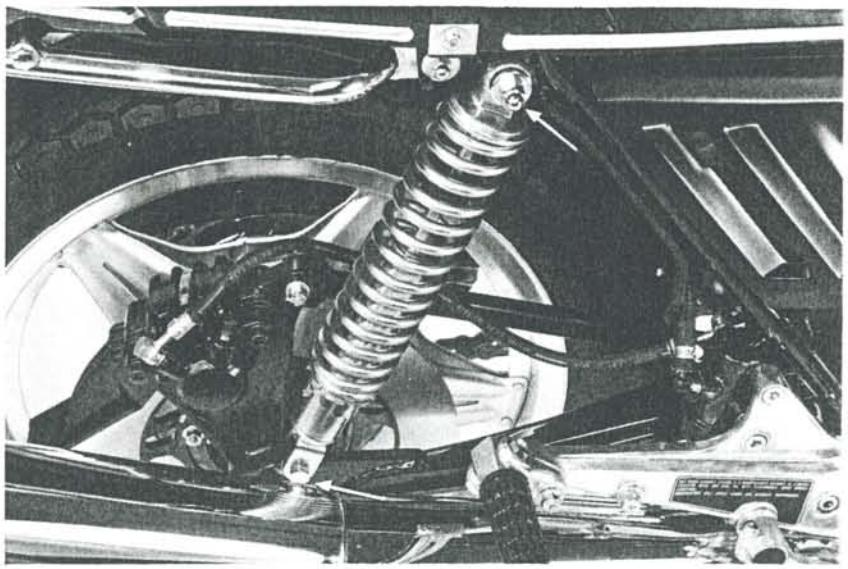
Adjust the drive chain free play. (See 3-16)



SHOCK ABSORBER

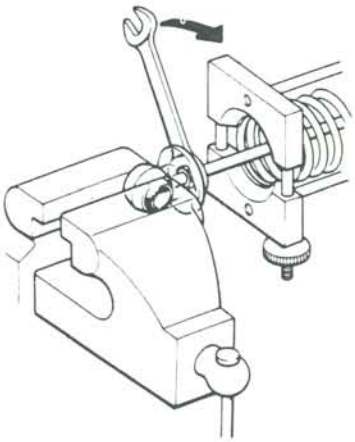
SHOCK ABSORBER REMOVAL

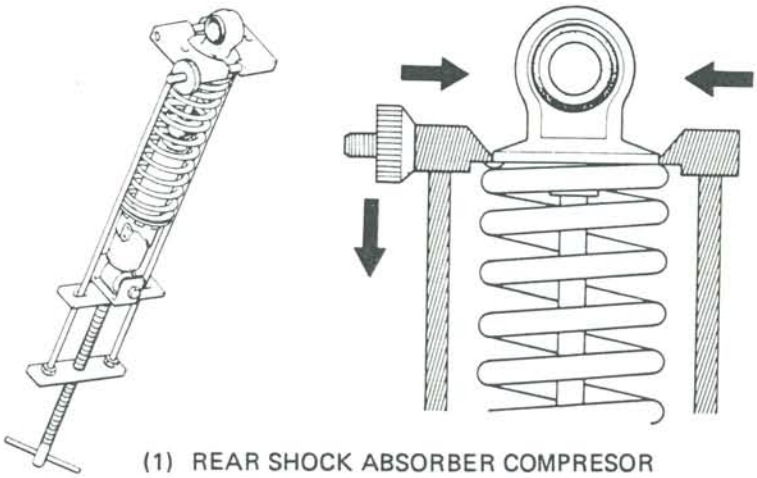
Remove the upper and lower shock absorber mounting bolts and nuts and remove the shock absorbers.



SHOCK ABSORBER DISASSEMBLY

Compress the spring just enough to remove the lock nut.
Loosen the lock nut and remove the top eye.





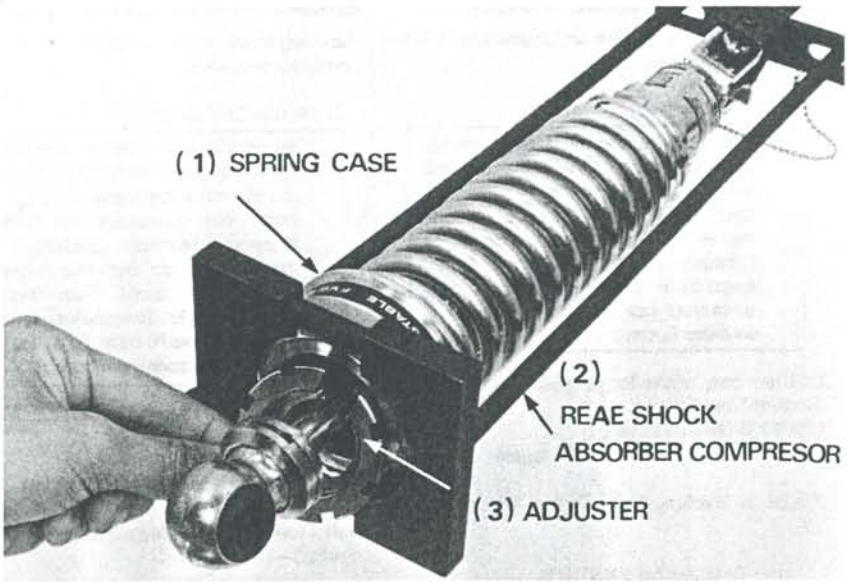
(1) REAR SHOCK ABSORBER COMPRESOR

ADJUSTABLE FVQ

Compress the spring just enough to remove the adjuster and remove the parts.

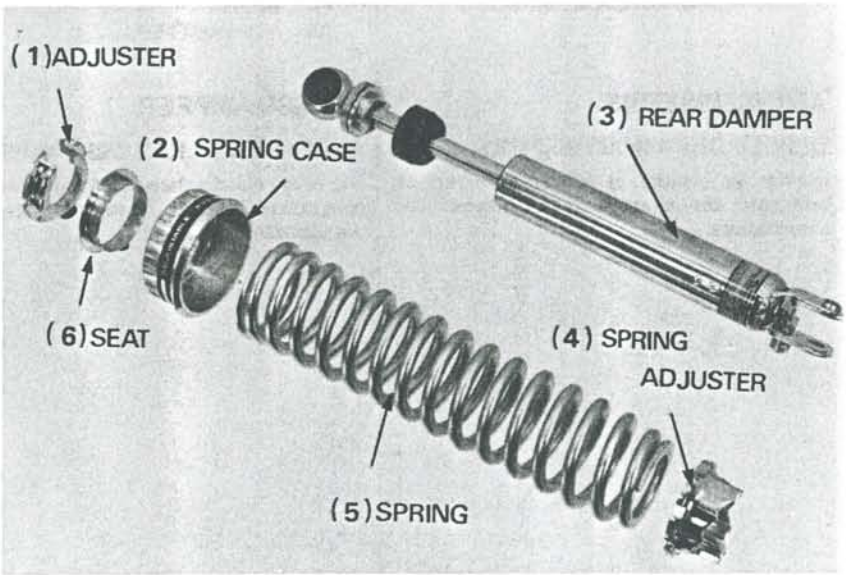
NOTE

Wrap the cover with tape to prevent damage to it.



NOTE

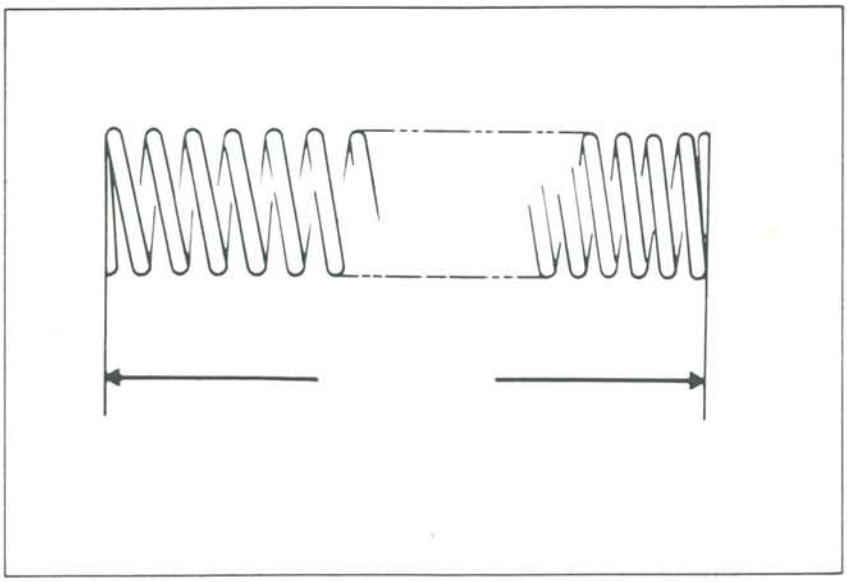
Do not try to disassemble the absorber further.



SHOCK ABSORBER SPRING FREE LENGTH

Disassemble the unit.
Measure the free length of the spring. Inspect the shock body for oil leaks.

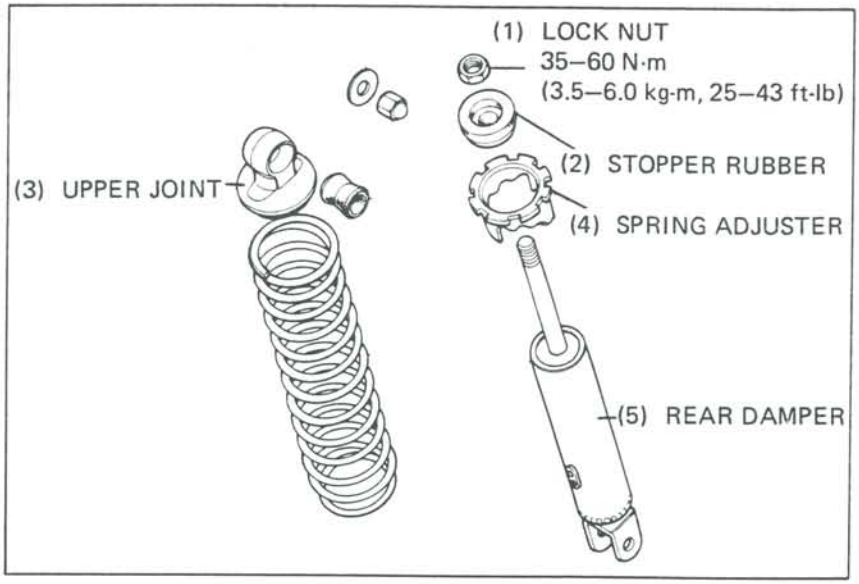
SERVICE LIMIT: 249.5 mm (9.82 in)



SHOCK ABSORBER ASSEMBLY

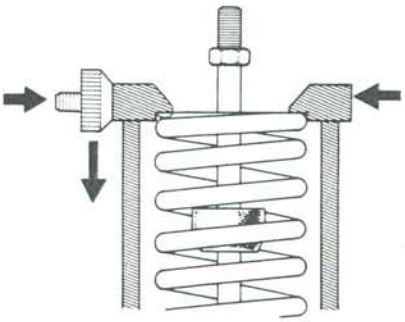
NOTE

Install the spring with the small coil at the bottom.

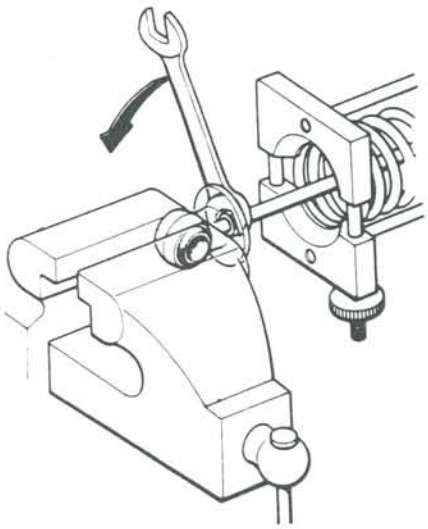


NOTE

Apply locking agent to the lock nut at time of assembly.



(1) REAR SHOCK ABSORBER COMPRESSOR

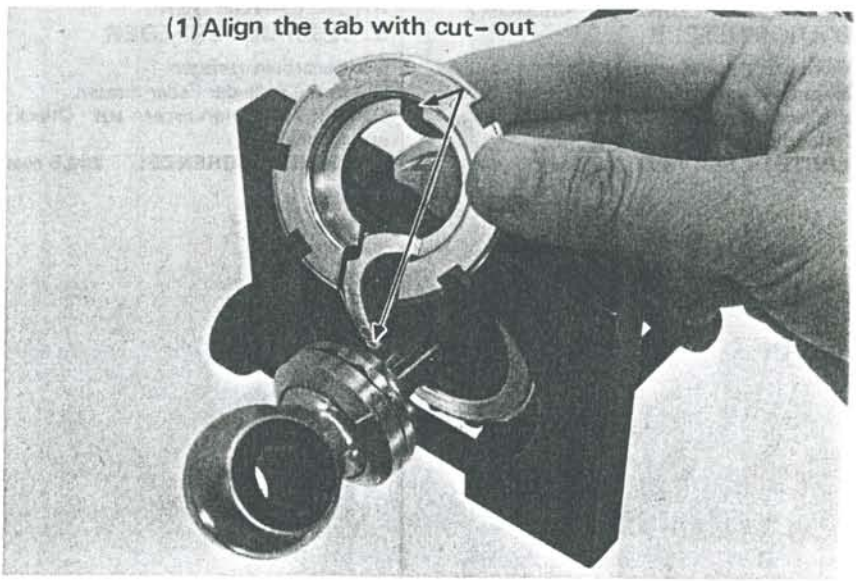


ADJUSTABLE FVQ

NOTE

Install the spring with the small coil at the bottom.

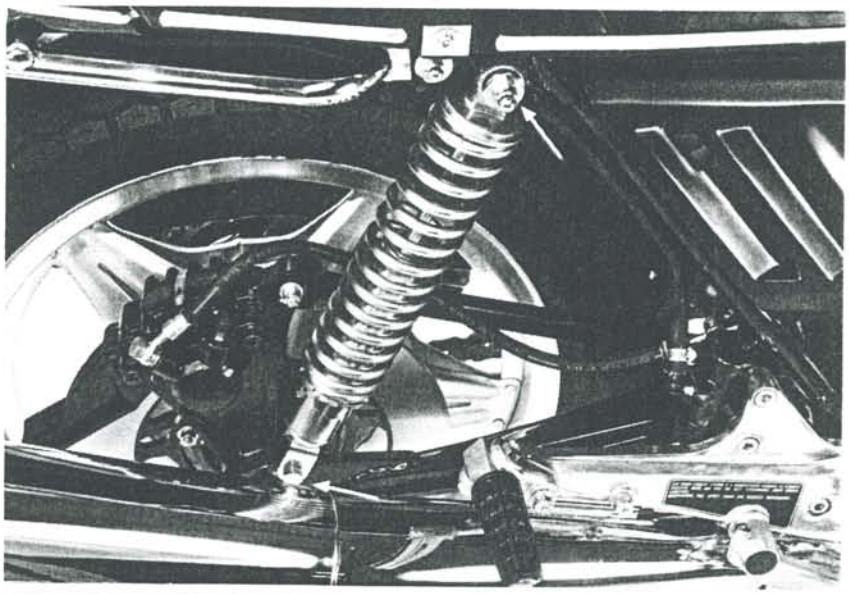
To install the spring adjuster, use the tool "REAR SPRING COMPRESSOR" as in removal. Align the lug on the upper eye with the cutout in the adjuster.



SHOCK ABSORBER INSTALLATION

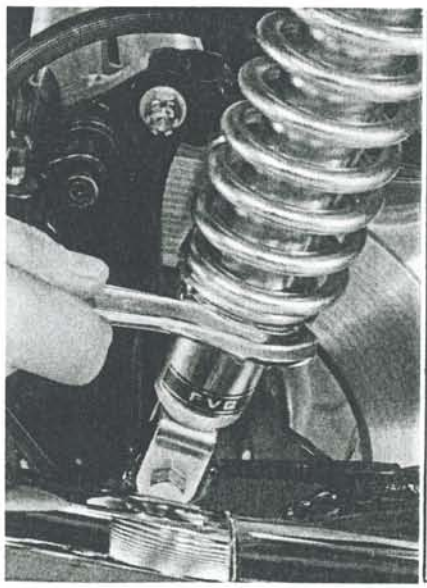
Torque the shock absorber bolts and nuts.

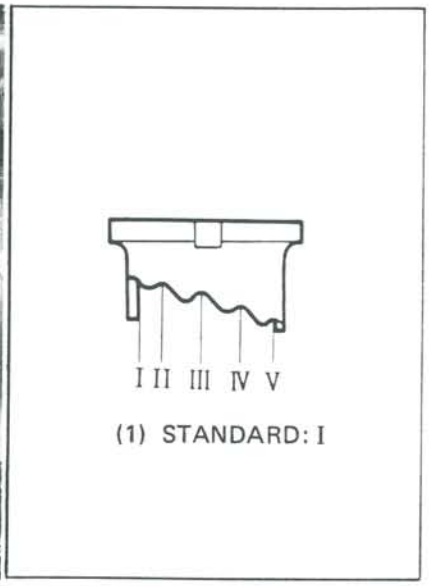
TORQUE: 30–40 N·m
(3.0–4.0 kg-m, 22–29 ft-lb)



Adjust the right and left absorbers equally with the spring adjuster.

Check shock absorber operation after installation.





ADJUSTABLE FVQ

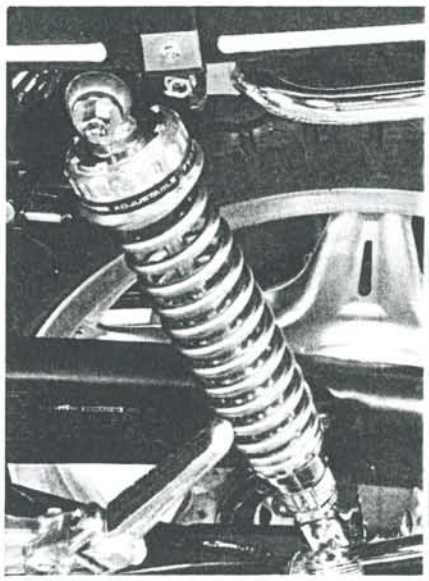
NOTE

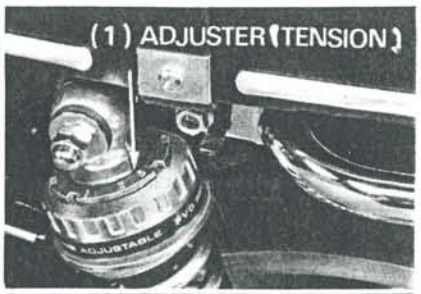
Be certain to adjust both shock absorbers to the same position.

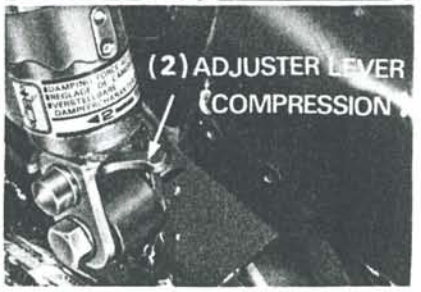
FVQ shock absorber has three adjustable positions; spring adjuster, damper tension adjuster and damper compression adjuster. The tension adjuster has three adjusting positions whereas the compression adjuster has two positions. The position "I" is for light load or standard.

NOTE

Be certain to adjust both shock absorbers to the same position,



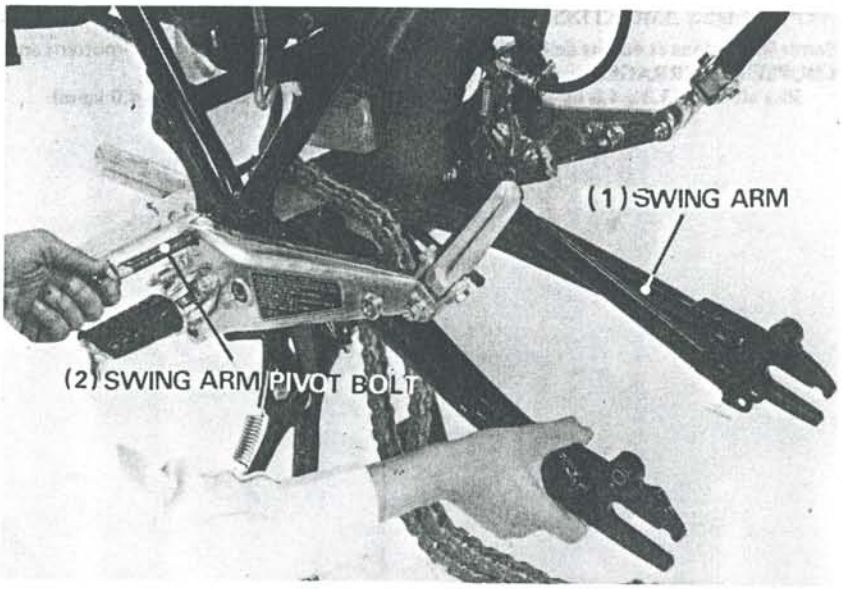




SWING ARM

SWING ARM REMOVAL

Remove the rear wheel. (Page 14-3)
Disconnect the rear brake torque rod from the brake caliper.
Remove the drive chain guard.
Remove the right and left shock absorbers.
Remove the swing arm.

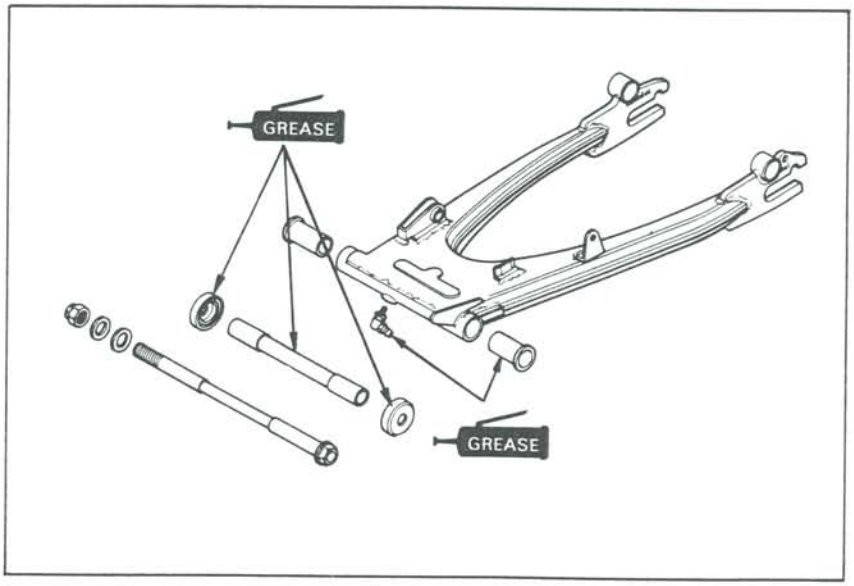


WING ARM DISASSEMBLY/ ASSEMBLY

NOTE

Drive the bushings into place, with a soft hammer, making sure that they are not damaged.
Lubricate with grease after installation.

SWING ARM BUSHING I.D. SERVICE LIMIT: 21.7 mm (0.854 in)
SWING ARM COLLAR O.D. SERVICE LIMIT: 21.4 mm (0.843 in)



SWING ARM INSTALLATION

Place the drive chain over the swing arm.
Tighten the swing arm pivot bolt.

TORQUE: 60–70 N·m (6.0–7.0 kg-m, 43–51 ft-lb)

Install the shock absorbers.

TORQUE: 30–40 N·m (3.0–4.0 kg-m, 22–29 ft-lb)

Install the rear wheel.

