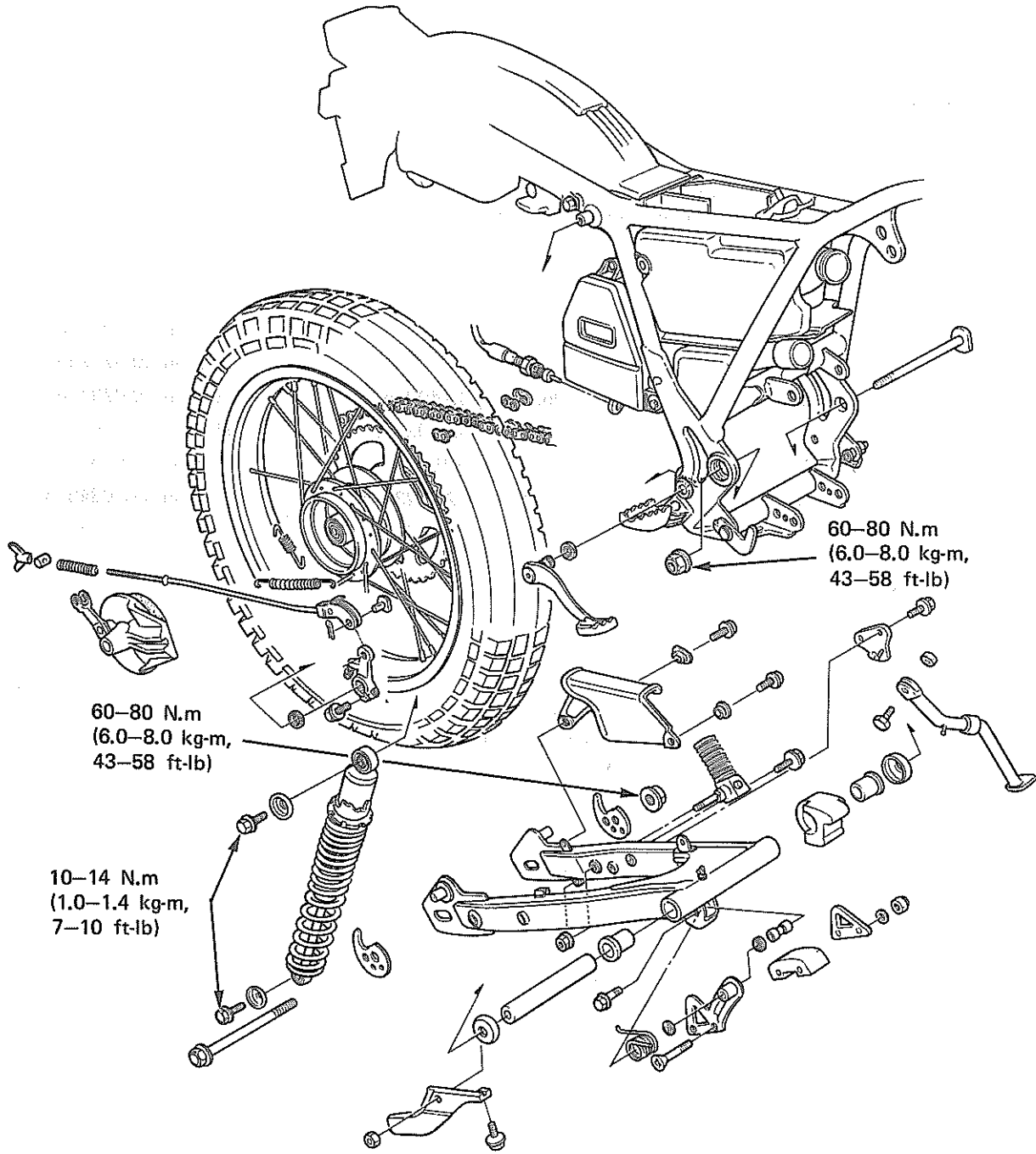




**REAR WHEEL/BRAKE/
SUSPENSION**

**HINTERRAD/BREMSE/
AUFHÄNGUNG**

**ROUE/FREIN/
SUSPENSION ARRIERE**



12

12. REAR/WHEEL/BRAKE/ SUSPENSION



SERVICE INFORMATION	12-1	BRAKE PEDAL	12-10
TROUBLESHOOTING	12-2	SHOCK ABSORBERS	12-11
REAR WHEEL	12-3	SWINGARM	12-13
BRAKE PANEL	12-8	EXHAUST PIPE/MUFFLER	12-17

SERVICE INFORMATION

GENERAL INSTRUCTIONS

This section covers maintenance of the rear wheel, rear forks, and the exhaust pipe. A jack or block is required to support the motorcycle during the operation.

SPECIFICATIONS

ITEM		STANDARD	SERVICE LIMIT
Rear axle	Bend	—	0.2 mm (0.0079 in)
Rear wheel rim runout	Radial	—	2.0 mm (0.0787 in)
	Axial	95.0 mm (3.7402 in)	2.0 mm (0.0787 in)
Rear brake drum I.D.		95.0 mm (3.7402 in)	96.0 mm (3.7795 in)
Rear brake lining thickness		4.0 mm (0.1575 in)	2.0 mm (0.0787 in)
Rear shock absorber spring free length		313.8 mm (12.3323 in)	307.5 mm (12.0848 in)
Rear fork bushing-to-collar clearance		0.2–0.3 mm (0.0079–0.0118 in)	0.8 mm (0.0315 in)

TORQUES;

Rear axlemut	60–80 N·m (6.0–8.0 kg-m, 43–58 ft-lb)
Final driven sprocket	55–65 N·m (5.5–6.5 kg-m, 40–47 ft-lb)
Rear shock absorber	10–14 N·m (1.0–1.4 kg-m, 7–10 ft-lb)
Rear fork pivot bolt	60–80 N·m (6.0–8.0 kg-m, 43–58 ft-lb)
Spoke nipple	2.5–5.0 N·m (25–50 kg-cm, 1.8–3.6 ft-lb)

TOOLS;

Special tools

Rearing remover (17 mm)	07936–3710300
Remover handle	07936–3710100
Slider weight	07741–0010201
Needle bearing driver	07946–KA50000

Common tools

Bearing remover shaft	07746–0050100
Bearing remover head (12 mm)	07746–0050300
Bearing driver outer (32 x 35 mm)	07746–0010100
Bearing driver outer (37 x 40 mm)	07746–0010200
Bearing driver piotl (12 mm)	07746–0040200
Driver handle outer A	07749–0010000
Rear shock absorber compressor	07959–3290000

TROUBLESHOOTING

Wobble or vibration in motorcycle

1. Bent rim
2. Loose wheel bearing
3. Loose or bent spokes
4. Faulty tire
5. Axle not tightened properly
6. Swingarm bushing worn
7. Chain adjusters not adjusted equally

Soft suspension

1. Weak spring
2. Faulty rear damper

Hard suspension

1. Faulty rear shock absorber

Suspension noise

1. Shock case binding
2. Loose fasteners

Poor brake performance

1. Improper brake adjustment
2. Worn brake shoe
3. Brake linings oily, greasy or dirty
4. Worn brake cam
5. Worn brake drum
6. Brake arm serrations improperly engaged
7. Brake shoes worn at cam contact area



REAR WHEEL

REAR WHEEL REMOVAL

Rise the rear wheel off the ground with a jack or a block supporting the skid plate or the frame.

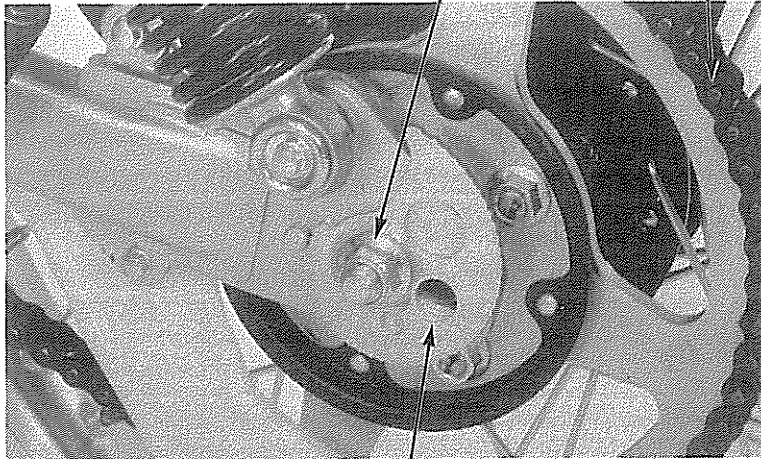
Remove the axle nut.

Loosen the chain adjuster.

Remove the chain clip, master link and the drive chain.

(1) AXLE NUT

(2) CHAIN CLIP

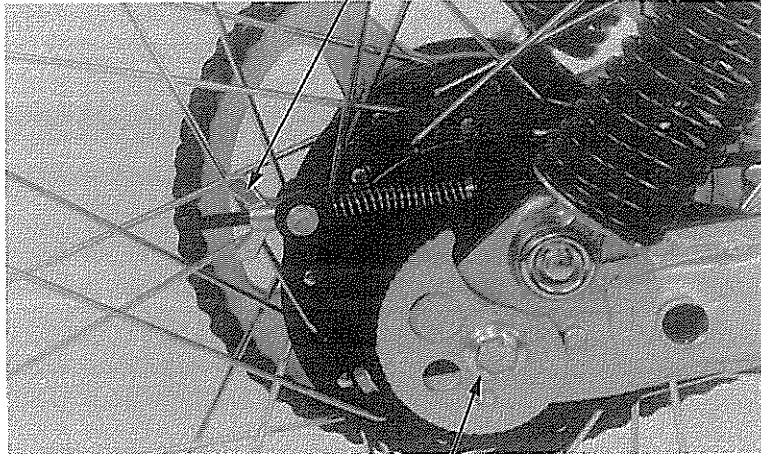


(3) CHAIN ADJUSTER

(4) BRAKE ADJUSTER

Remove the brake adjuster.

Remove the axle shaft and the rear wheel.



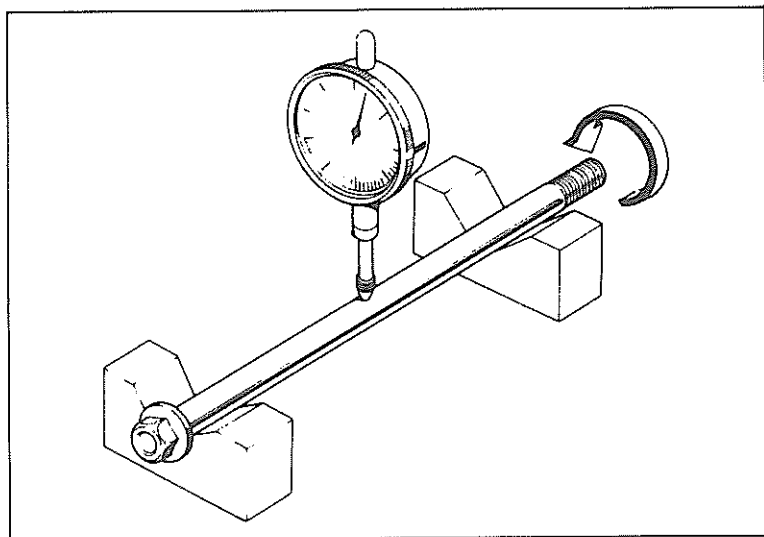
(5) AXLE SHAFT

REAR AXLE SHAFT INSPECTION

Place the rear axle shaft in V-blocks and measure the runout.

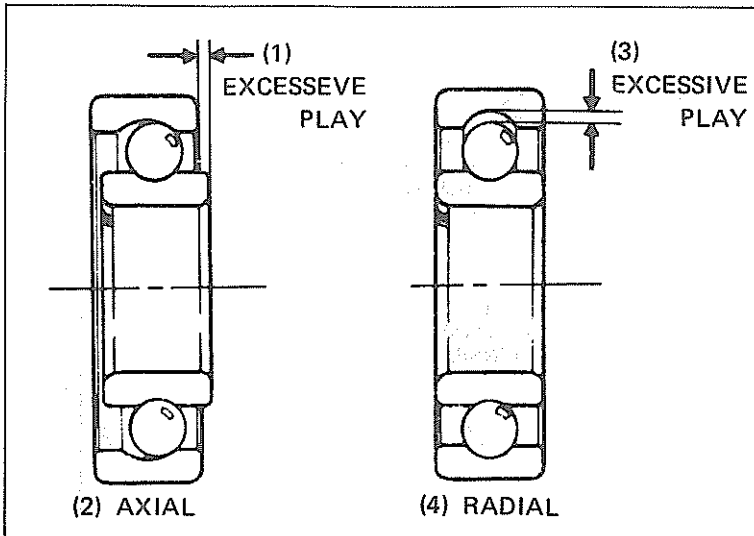
The actual runout is 1/2 of TIR (Total Indicator Reading).

SERVICE LIMIT; 0.2mm (0.0079 in)



REAR WHEEL BEARING INSPECTION

Check the rear wheel bearing play by placing the wheel in a turning stand and spinning it by hand. Replace the bearings if they are noisy or have an excessive play.



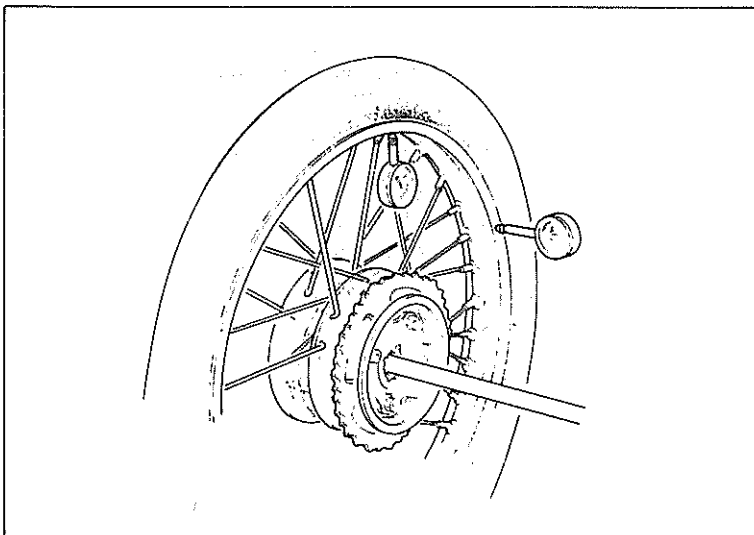
REAR WHEEL INSPECTION

Inspect the rear wheel rim runout with a dial indicator gauge.

SERVICE LIMITS;

Radial 2.0mm (0.0787 in)

Axial 2.0mm (0.0787 in)

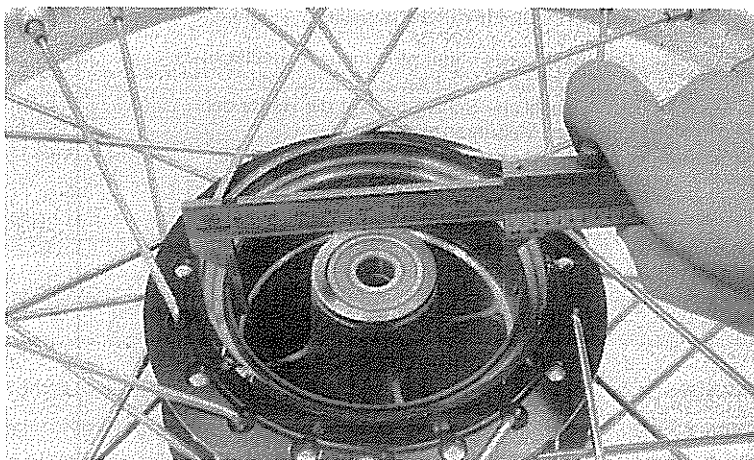


BRAKE DRUM INSPECTION

Inspect several I.D.s of the brake drum mating surface with the brake lining.

Check the largest number of the I.D.s.

SERVICE LIMIT; 96.0mm (3.7795 in)

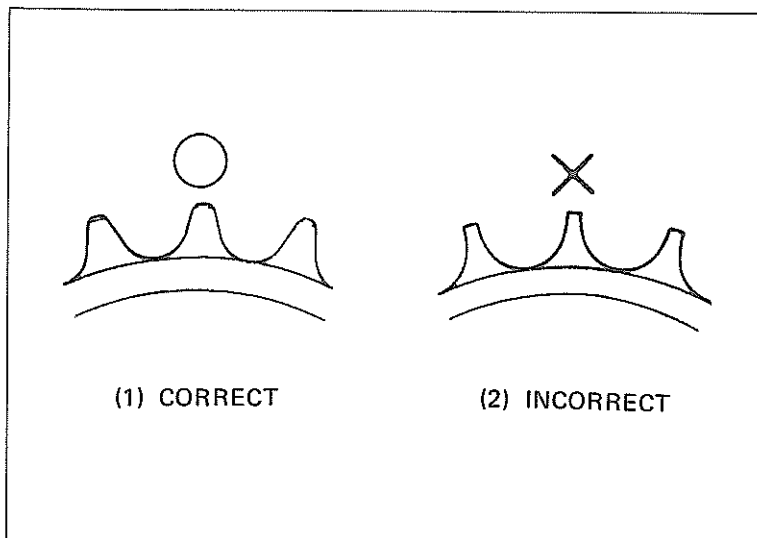


DRIVEN SPROCKET REPLACEMENT

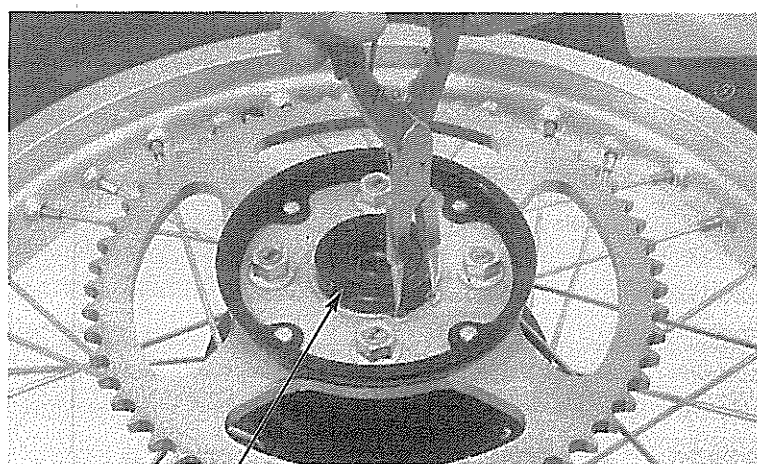
Inspect the final driven sprocket teeth for wear or damage and replace the sprocket to a new one if necessary.

NOTE

If the final driven sprocket is damaged or worn out, inspect the drive chain and the drive sprocket, too.
Replace them if necessary.



Remove the circlip and the driven sprocket.



(3) CIRCLIP

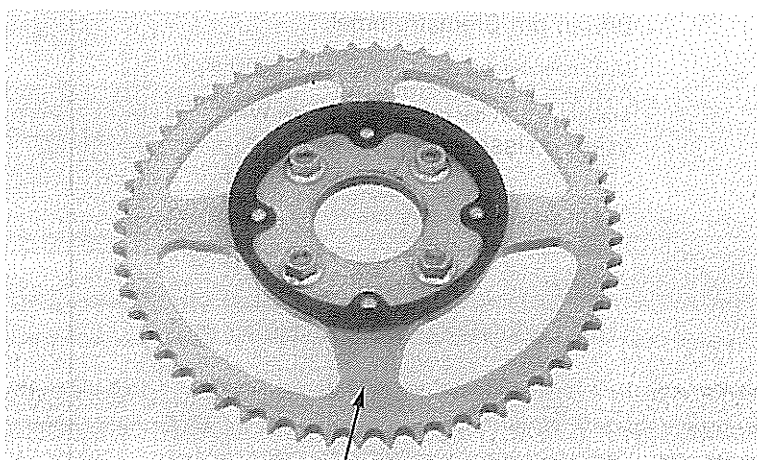
Remove the fixing bolts and nuts from the final driven sprocket.

Install the fixing bolts and nuts into a new final driven sprocket.

Tighten the fixing bolts and nuts.

TORQUE; 55-65 N.m
(5.5-6.5kg-m, 40-47 ft-lb)

Install the final driven sprocket and the circlip on to the rear wheel.

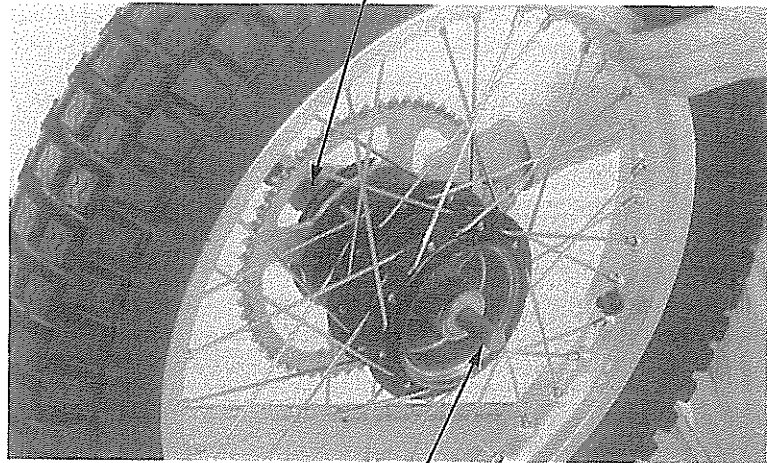


(4) DRIVEN SPROCKET

REAR WHEEL DISASSEMBLY

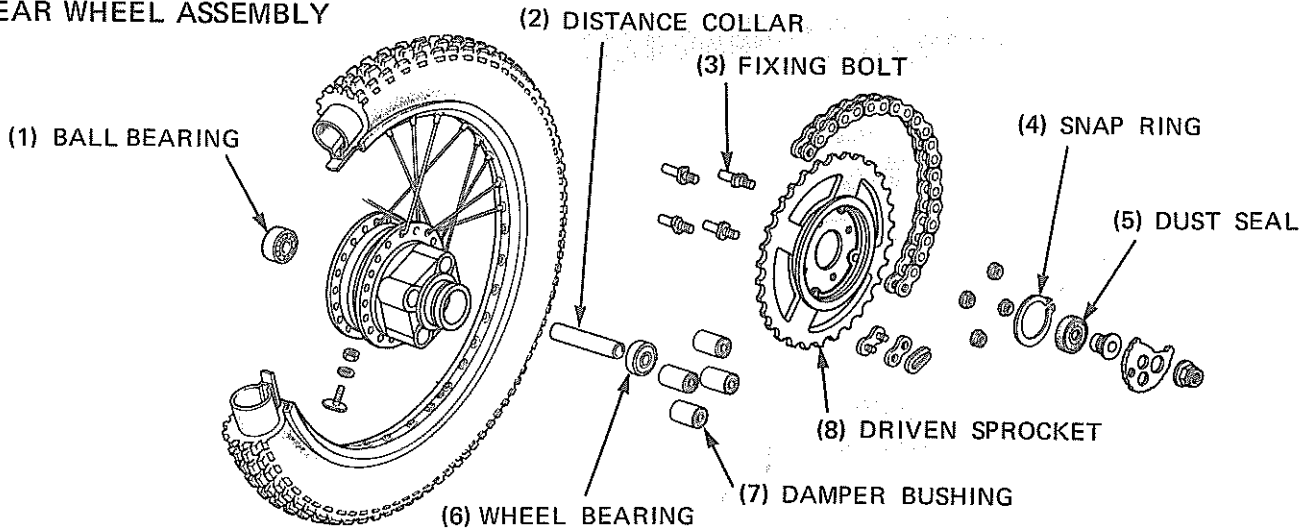
Remove the dust seal, wheel bearing and the distance collar.
Remove the final driven sprocket.

(1) BEARING REMOVER SHAFT 07746-0050100



(2) BEARING REMOVER HEAD (12mm) 07746-0050300

REAR WHEEL ASSEMBLY



(9) DRIVER HANDLE OUTER A 07749-0010000

Pack all bearing cavities with grease.

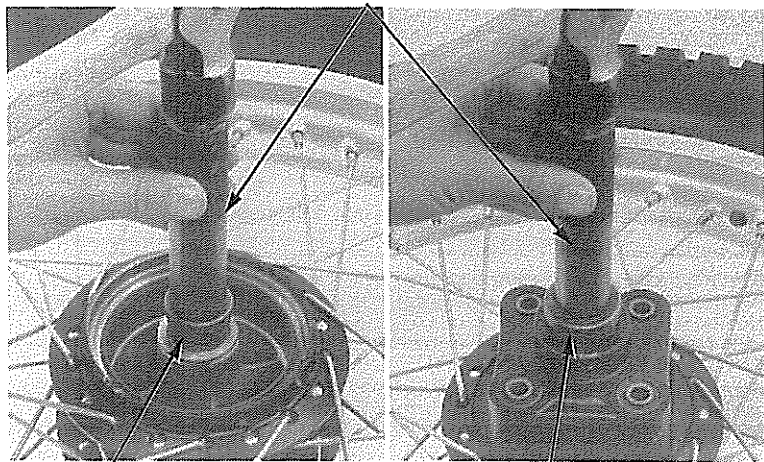
Drive in the right bearing into the wheel hub.
Install the distance collar and drive in the left bearing.

NOTE

Drive the bearings squarely; never let them tilt.
Install the bearings with the sealed end facing outside.
Drive in the right bearing first.

Common tools

- Bearing driver outer (32x35mm)
07746-0010100
- Bearing driver pilot (12mm)
07746-0040200



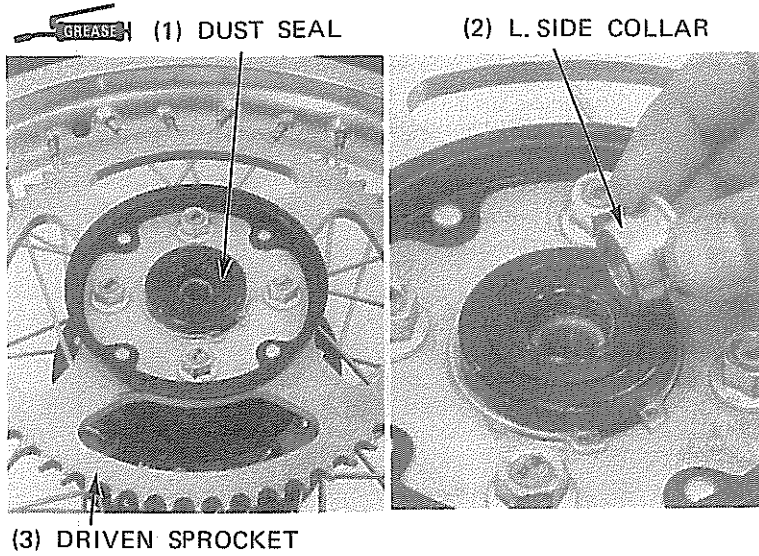
(10) BEARING DRIVER OUTER (37 x 40 mm) 07746-0010200

(11) BEARING DRIVER PILOT (12 mm) 07746-0040200



REAR WHEEL/BRAKE/SUSPENSION

Install the final driven sprocket.
Apply grease to the dust seal and install it on to the wheel hub.
Install the left side collar.

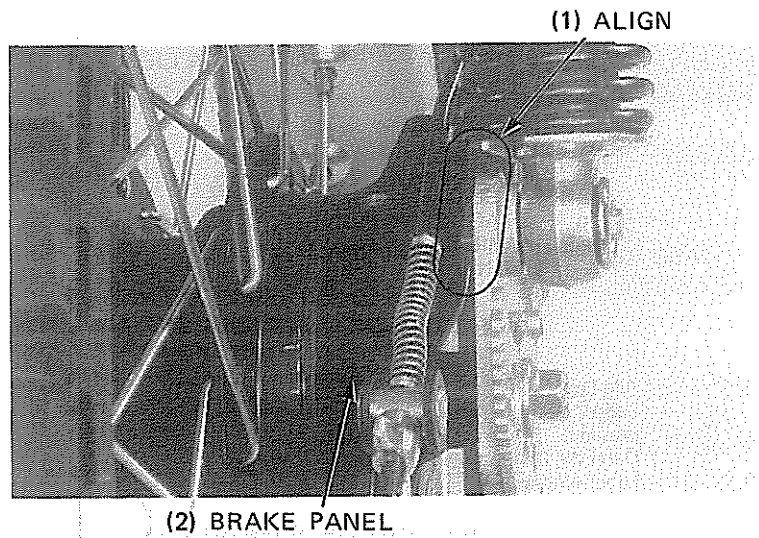


REAR WHEEL INSTALLATION

Install the rear wheel by inserting the axle shaft.
Install the brake panel to the rear fork.

NOTE

Align the groove in the brake panel with a tang of the rear wheel.



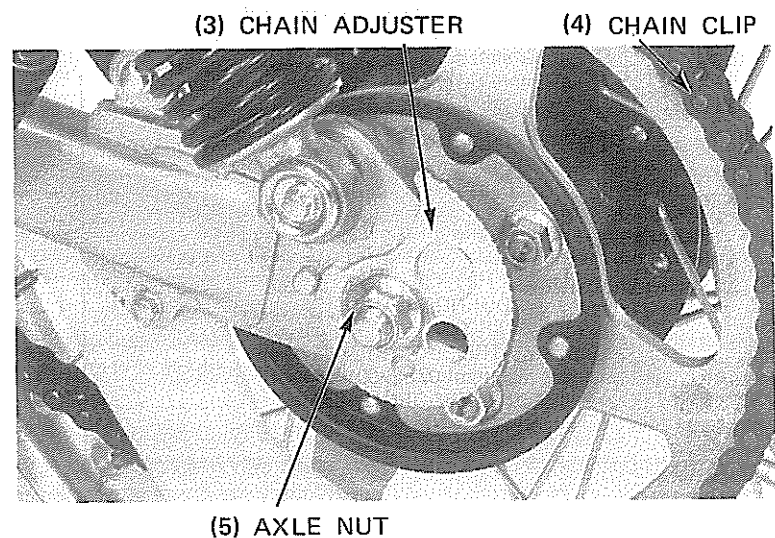
Install the chain adjuster and the axle shaft.
Install the axle nut.
Install the drive chain.
Install the master link and the chain clip.

NOTE

Note the direction of the chain clip.

Adjust the drive chain. (Page 3-12)
Tighten the axle nut.

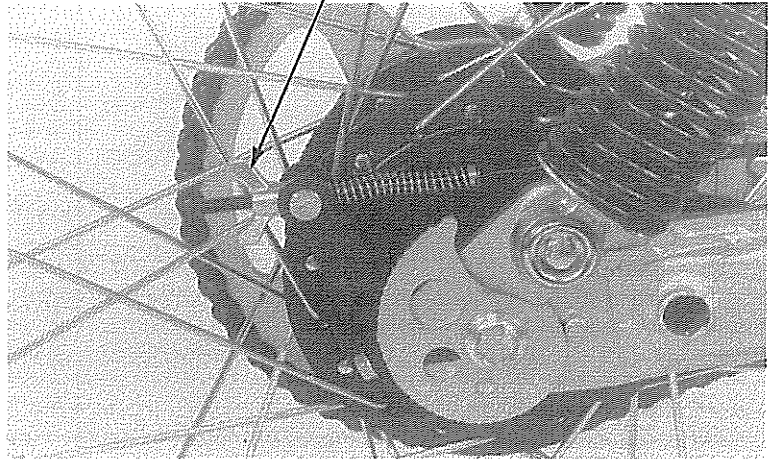
TORQUE; 60-80 N.m
(6.0-8.0Kg-m, 43-58 ft-lb)





(1) BRAKE ADJUSTER

Install the brake adjuster and adjust the rear brake free play. (Page 3-16)

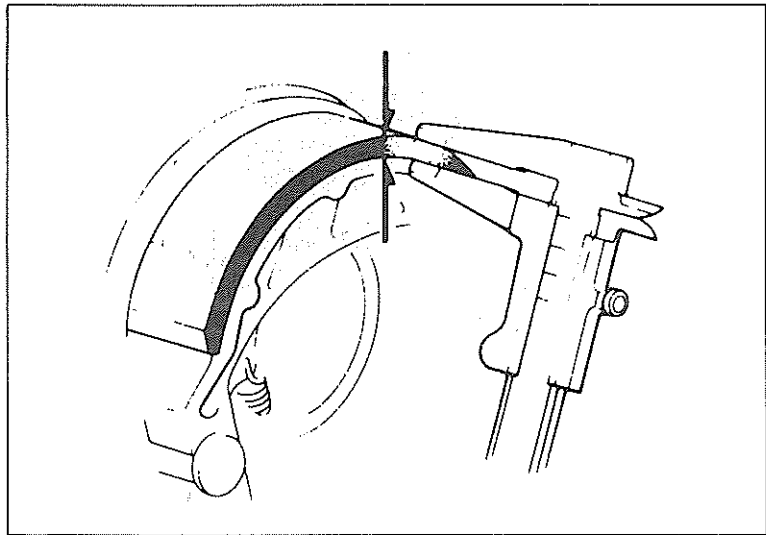


BRAKE PANEL

BRAKE SHOE INSPECTION

Remove the rear wheel and the brake panel.
Measure the brake shoe thickness.

SERVICE LIMIT; 2.0mm (0.0787 in)

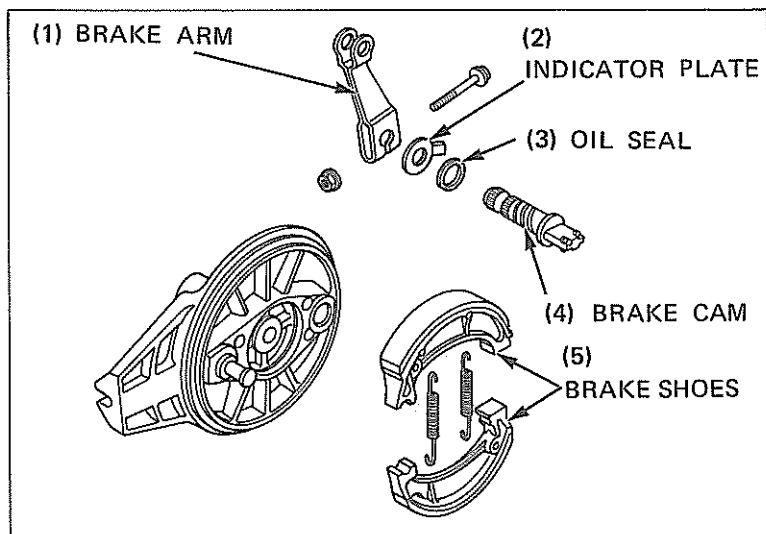


BRAKE PANEL DISASSEMBLY

Remove the brake panel mounting bolt, brake arm, and the wear indicator.

Remove the brake shoes and the springs.

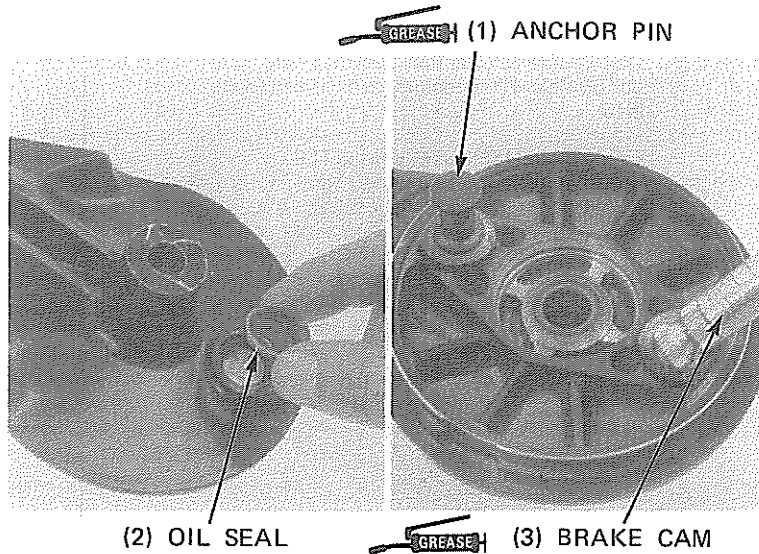
Remove the brake cam and the oil seal.





BRAKE PANEL ASSEMBLY

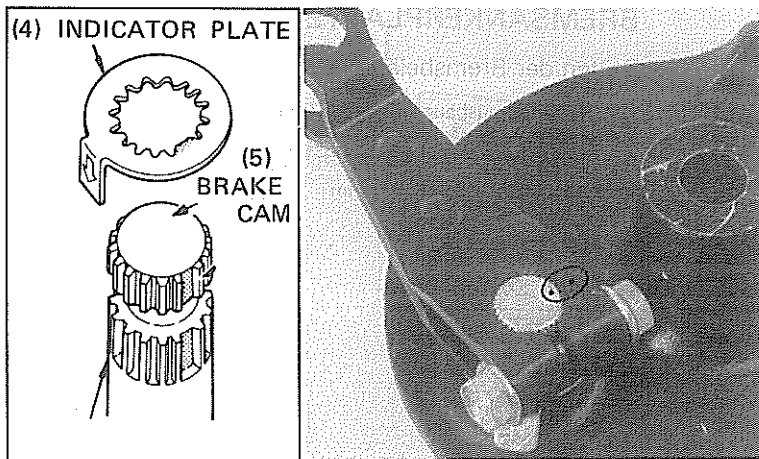
Install the oil seal on to the brake panel.
Apply grease to the sliding surface of the brake cam and the anchor pin.
Install the brake cam.



Apply grease to the sliding surface of the brake cam and install it.
Install the wear indicator plate.

NOTE

Align the millings of the brake cam with the indentation of the wear indicator plate.



Install the brake arm.

NOTE

Align a punch mark on the brake arm with the one of the brake cam.

Tighten the brake arm bolt.

TORQUE; 8-12 N.m
(0.8-1.2kg-m, 6-9 ft-lb)

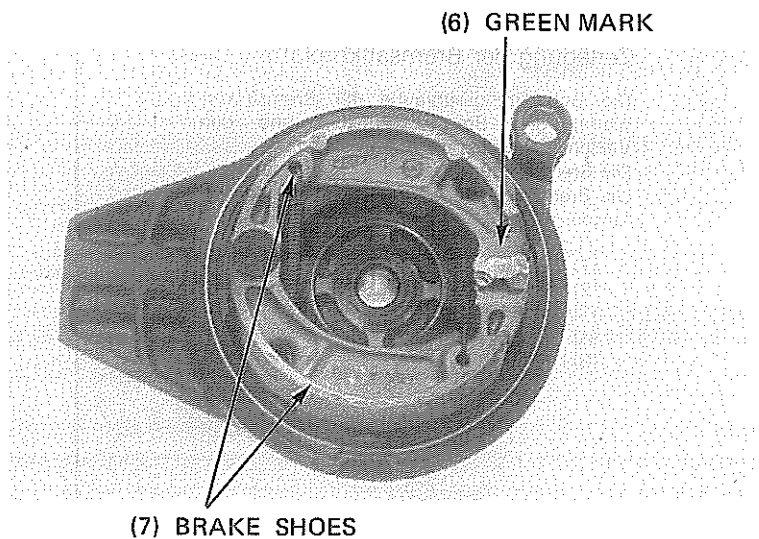
Install the brake shoes on the brake panel.

WARNING

*Contaminated brake lining reduces stopping power.
Keep grease off the lining. Wipe the excess grease off the cam.*

NOTE

A set of brake shoes consists of 2 brake shoes. Replace to a new set whenever necessary. Install the brake shoes with the green mark on the brake cam facing up.

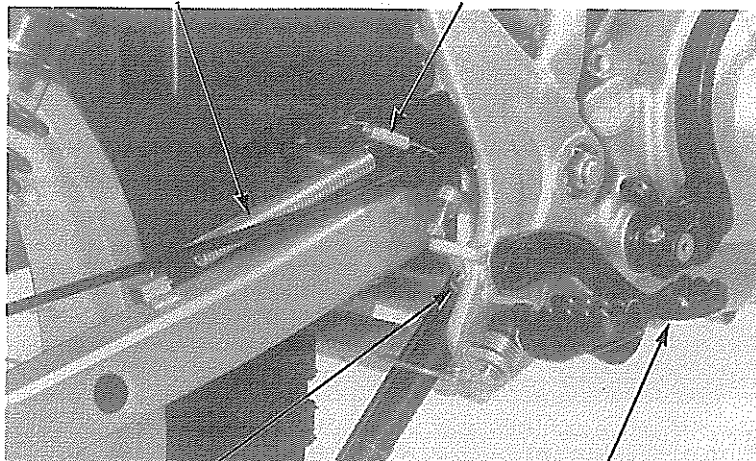


BRAKE PEDAL

BRAKE PEDAL REMOVAL

Remove the brake adjuster.
Remove the return spring and the brakelight switch spring.
Remove the brake arm bolt, brake pedal, and the dust seal.

(1) RETURN SPRING (2) BRAKELIGHT SWITCH SPRING



(3) BOLT (4) BRAKE PEDAL

BRAKE PEDAL INSTALLATION

Brake pedal installation is essentially a reverse order of the brake pedal removal.

NOTE

Apply grease to the brake pedal pivot.

After the installation, adjust the items below.

- Brake pedal height (Page 3-16)
- Brake pedal free play (Page 3-16)
- Brakelight switch (Page 3-16)

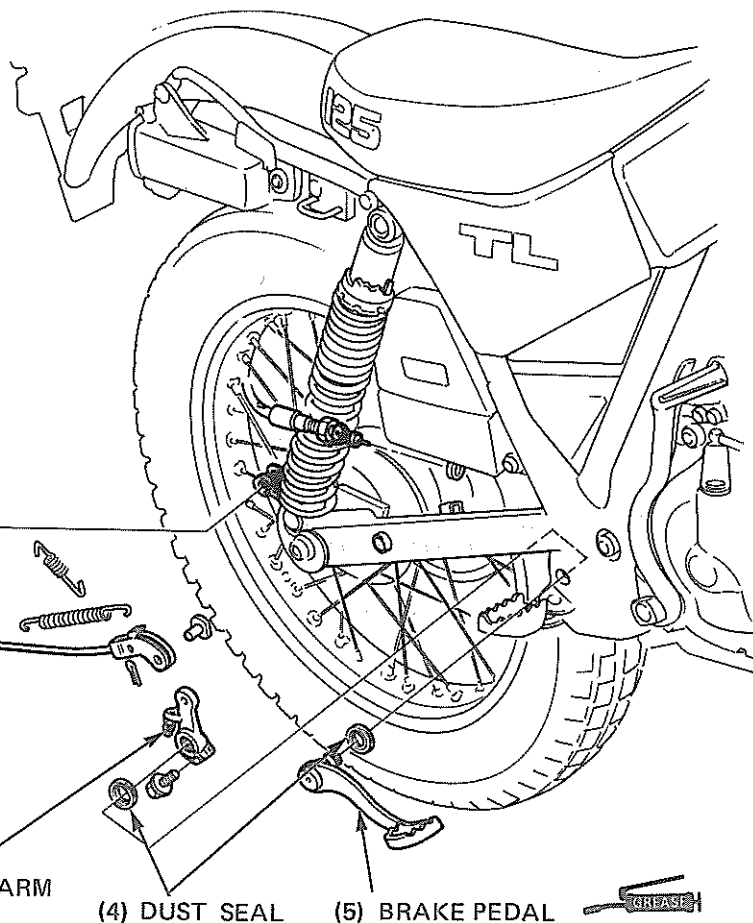
(1) BRAKE ADJUSTER

(2) BRAKE ROD

(3) BRAKE ARM

(4) DUST SEAL

(5) BRAKE PEDAL



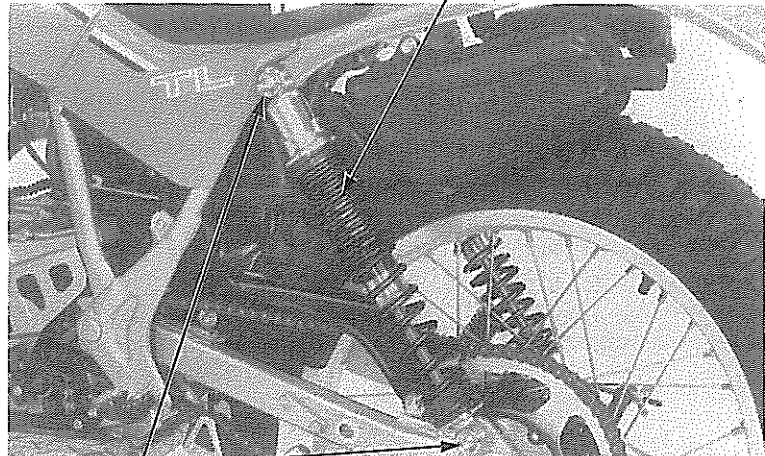
SHOCK ABSORBERS

SHOCK ABSORBER REMOVAL

Rise the rear wheel off the ground with a jack or a block under the engine, supporting the skid plate or the frame.

Remove the bolts and the shock absorber.

(1) REAR SHOCK ABSORBER



(2) BOLTS

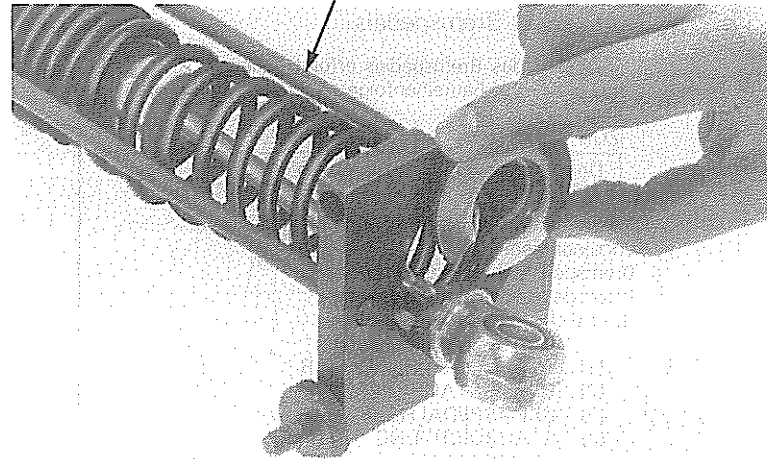
Press the shock absorber and remove the spring seat. Remove the shock absorber spring, spring guide, and the spring adjuster.

Loosen the lock nut and remove the lower joint.

WARNING

Do not disassemble the gas-filled damper.

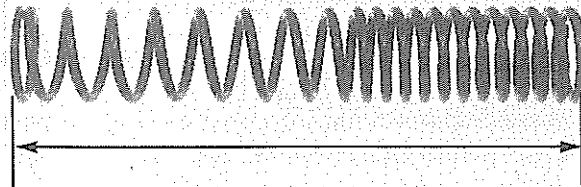
(3) REAR SHOCK ABSORBER COMPRESSOR 07959-3290001



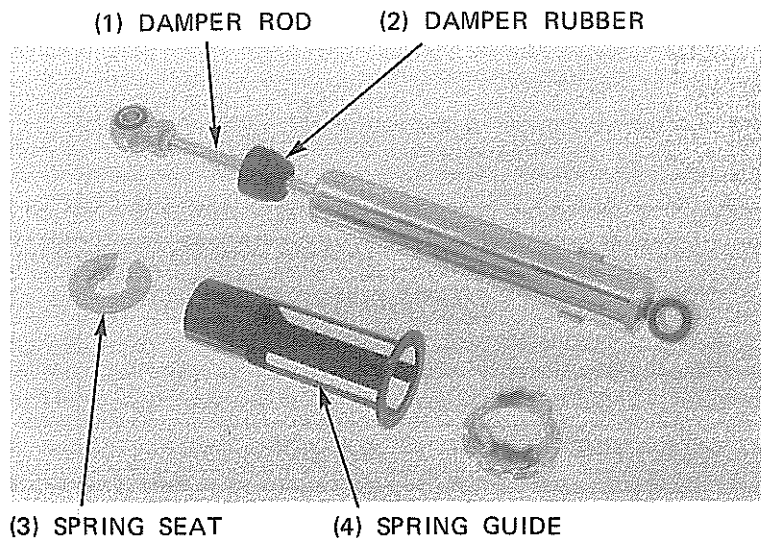
SHOCK ABSORBER SPRING INSPECTION

Measure the spring free length.

SERVICE LIMIT; 307.5mm (12.0848 in)



Inspect the damper rod, damper rubber, spring seat, and the spring guide for wear or damage.

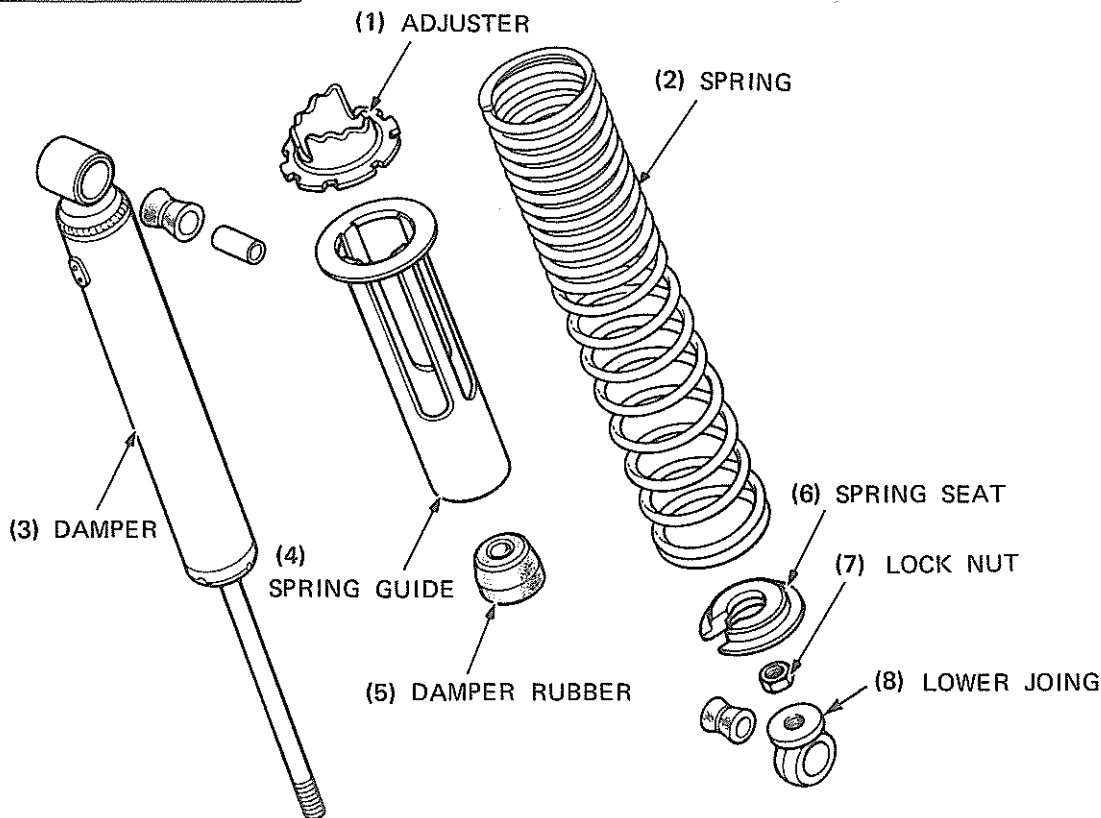


SHOCK ABSORBER ASSEMBLY

Shock absorber assembly is essentially the reverse order of the shock absorber disassembly.

NOTE

Install the shock absorber spring with its narrow coil up.
Apply the locking agent to the lower joint and the lock nut before installing them.

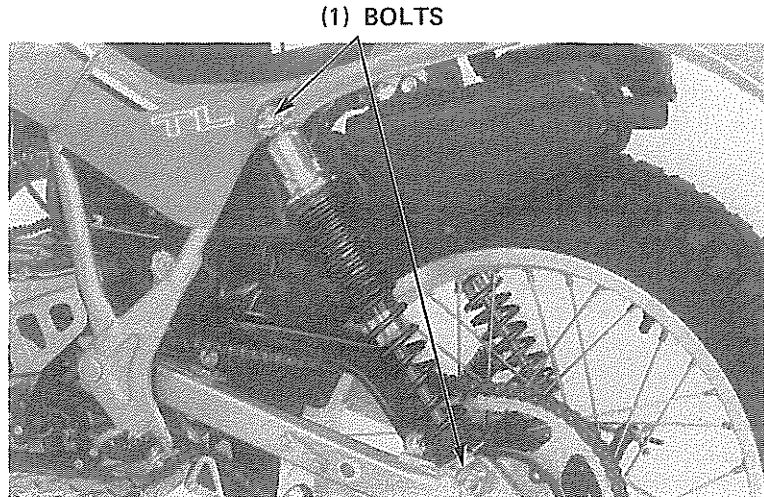


SHOCK ABSORBER INSTALLATION

Install the shock absorber with the adjuster facing up.

Tighten the bolts.

TORQUE; 10-14 N.m
(1.0-1.4kg-m, 7-10 ft-lb)

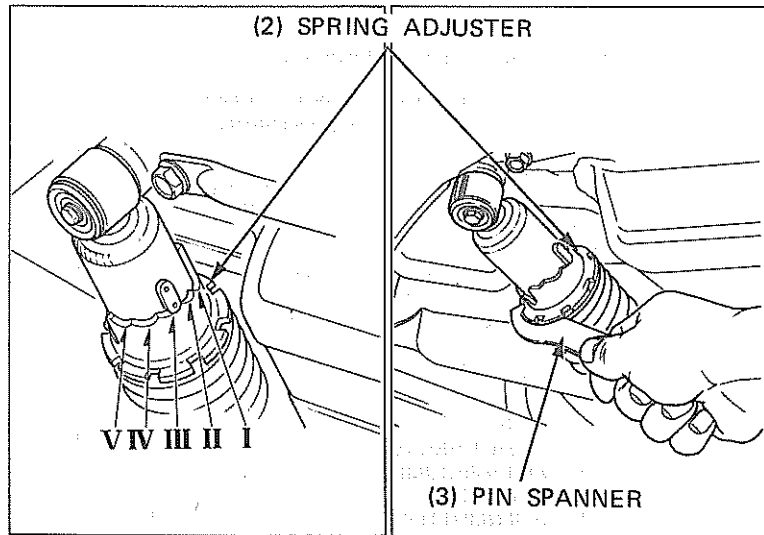


Adjust the adjuster by rotating it.

NOTE

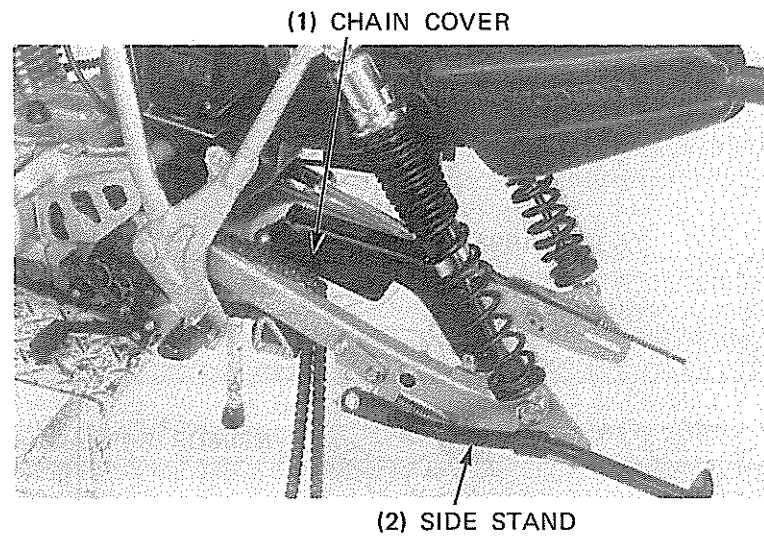
Rotate both the right and the left adjusters to the same position.

STANDARD POSITION; III

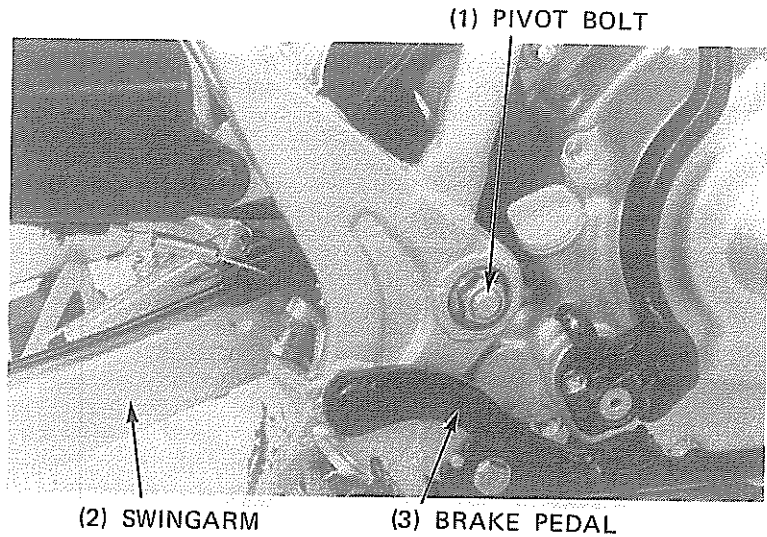


SWINGARM

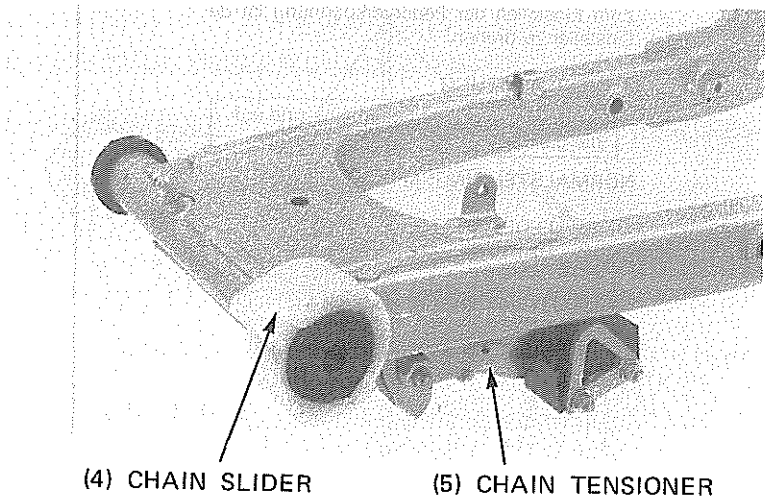
- Remove the rear wheel. (Page 12-3)
- Remove the rear shock absorber. (Page 12-11)
- Remove the chain cover and the side stand.



Remove the brake pedal. (Page 12-10)
Remove the swing arm pivot bolts.
Remove the swing arm.



Remove the chain slider and the chain tensioner.



CHAIN TENSIONER INSPECTION

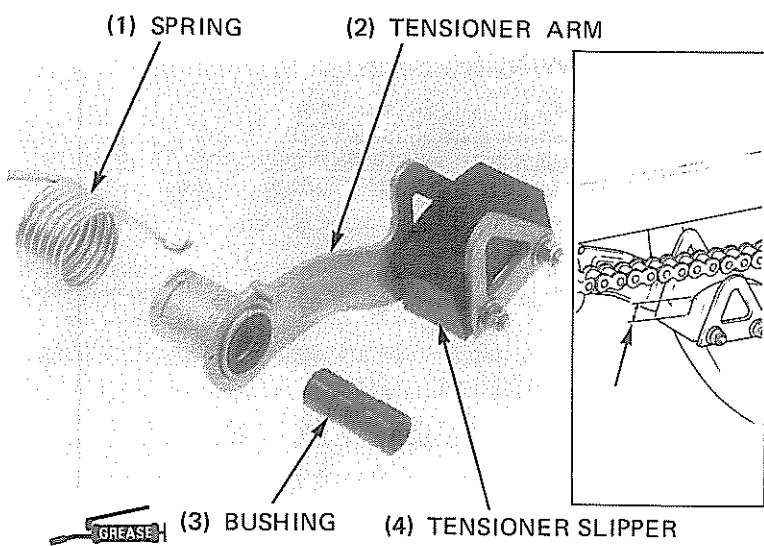
Inspect the tensioner arm, spring, and the bushing for wear or damage.

Inspect the tensioner slipper for wear.

SERVICE LIMIT;

The depth of the wear from the upper surface of the tensioner slipper; 12 mm (0.47 in)

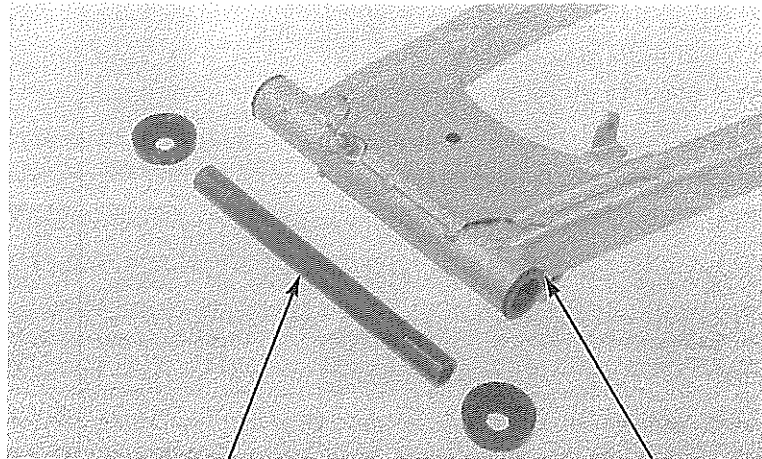
Apply grease to the bushing.



SWINGARM INSPECTION

Inspect the swingarm for scratch or any other damage.
Measure each bushing I.D. and pivot collar O.D.
Calculate the pivot-to-bushing clearance.

SERVICE LIMIT; 0.8mm (0.0315 in)



(1) PIVOT COLLAR

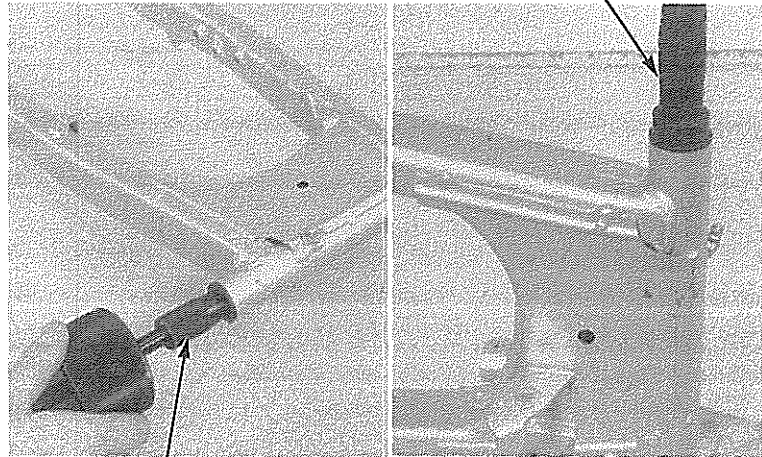
(2) BUSHING

(1) DRIVER HANDLE A 07749-0010000

(2) BEARING DRIVER OUTER (32 x 35 mm) 07746-0010100

SWINGARM BUSHING REPLACEMENT

Remove the bushing with a bearing remover.
Drive new bushings into the swing arm.



(3) BEARING REMOVER (17 mm) 07936-3710300

(4) REMOVER HANDLE 07936-3710100

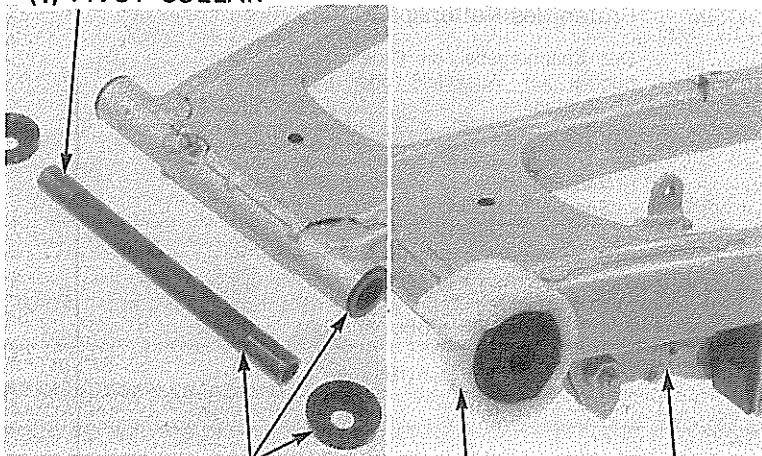
(5) SLIDER WEIGHT 07741-0010201

(1) PIVOT COLLAR

SWINGARM INSTALLATION

Apply grease to the pivot collar and the inside of the bushings and the dust seals.
Install them.

Install the chain slider and the chain tensioner.



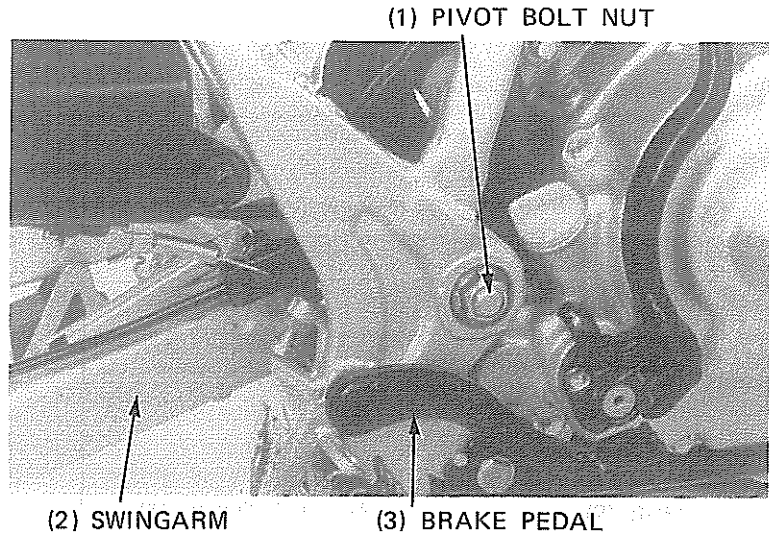
(2) CHAIN SLIDER

(3) CHAIN TENSIONER

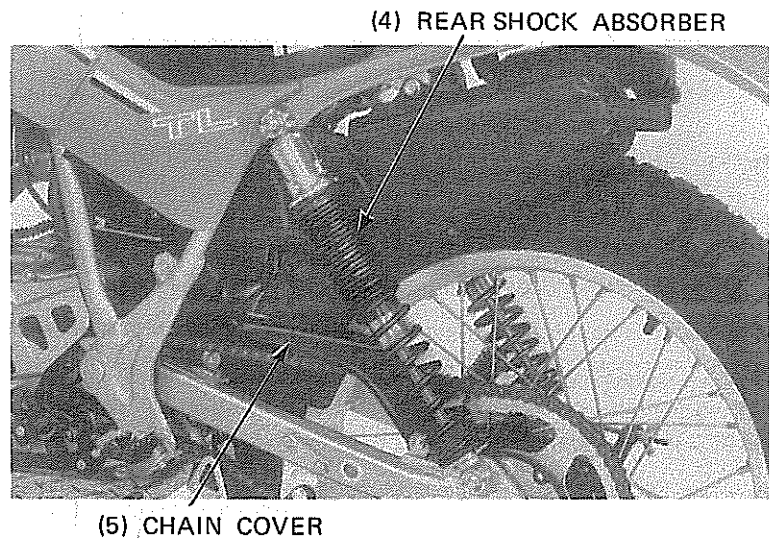
Install the swingarm.
Tighten the pivot bolt.

TORQUE; 60-80 N.m
(6.0-8.0kg-m, 43-58 ft-lb)

Install the brake pedal. (Page 12-10)



Install the chain cover and the side stand.
Install the shock absorber. (Page 12-13)
Install the rear wheel. (Page 12-7)



EXHAUST PIPE/MUFFLER

REMOVAL

- Remove both of the right and the left side covers.
- Remove the rear wheel. (Page 12-3)
- Loosen the exhaust pipe clamp bolt.
- Remove the exhaust pipe by removing the joint nut.
- Remove the muffler mounting bolts and then remove the muffler, taking it off backward.

NOTE

Inspect the gasket and the pipe seal for wear or damage, and replace them to new ones if necessary.

INSTALLATION

Exhaust pipe/muffler installation is essentially the reverse order of the removal mentioned above.

