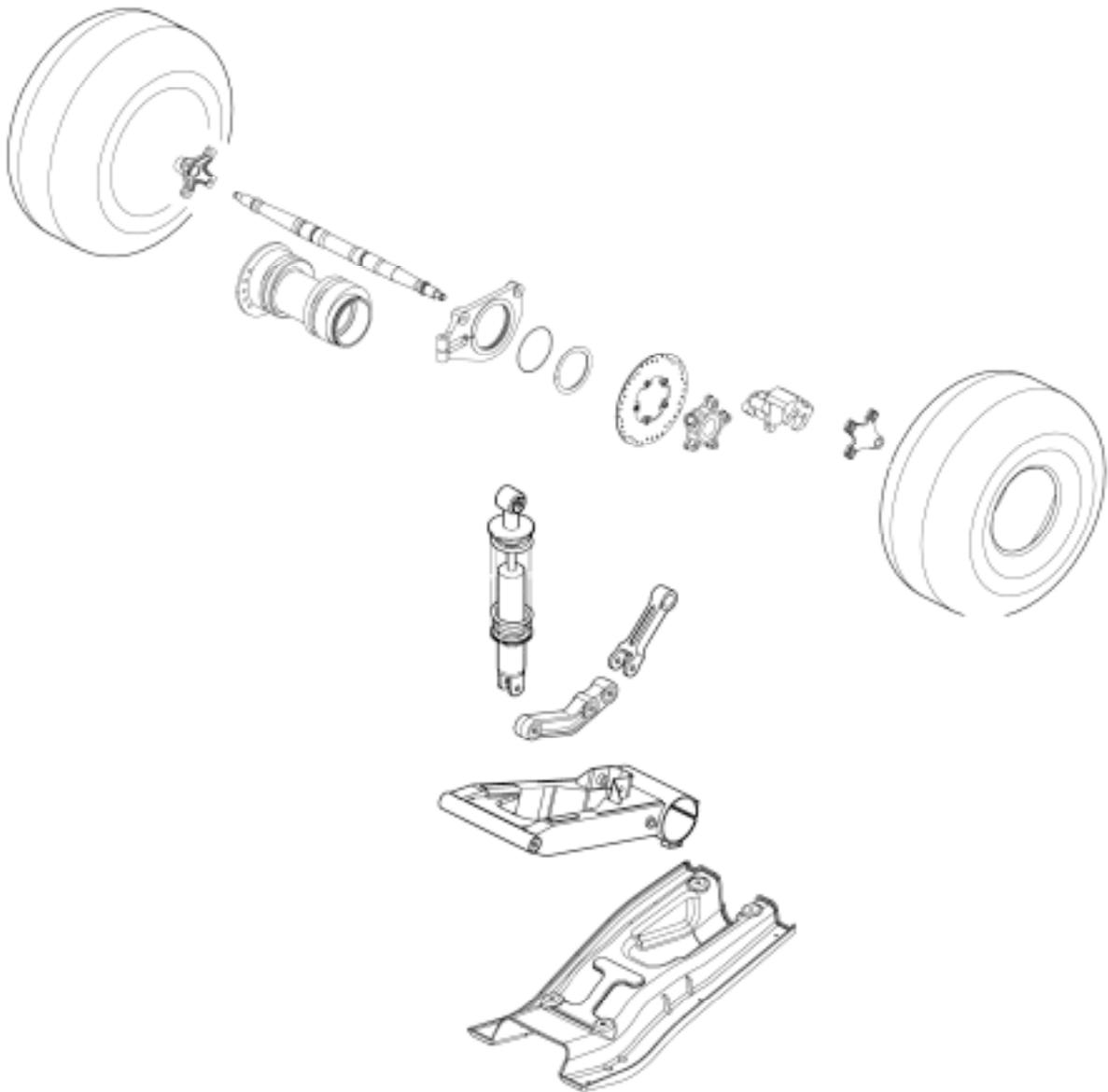


15. REAR WHEEL/AXLE/SUSPENSION

REAR WHEEL/AXLE/SUSPENSION

SERVICE INFORMATION ----- 15- 2
TROUBLESHOOTING ----- 15- 3
REAR WHEEL/AXLE/AXLE HUB----- 15- 3
REAR FORK/SWIM ARM/SHOCK ABSORBER ----- 15- 12

15. REAR WHEEL/AXLE/SUSPENSION



15. REAR WHEEL/AXLE/SUSPENSION

SERVICE INFORMATION

GENERAL INSTRUCTIONS

- Jack the machine front wheel off the ground and be careful to prevent the machine from falling down.
- During servicing, keep oil or grease off the brake disk
- Inspect the brake system before riding.

SPECIFICATIONS

Item		Standard (mm)	Service Limit (mm)
Rear wheel	Rim run out	Radial	□
		Axial	□
			2.0
			2.0

TORQUE VALUES

Rear wheel nut	5.0_ 6.0kgf-m
Rear shock absorber upper mount bolt	3.5_ 4.5kgf-m
Rear shock absorber lower mount bolt	3.5_ 4.5kgf-m
Rear fork axle	6.0_ 8.0kgf-m
Rear wheel hub nut	6.0_ 8.0kgf-m
Rear wheel shaft nut	11.0_ 13.0kgf-m
Caliper holder bolt	1.8_ 2.5kgf-m

SPECIAL TOOLS

Nut wrench F010

TROUBLESHOOTING

Rear wheel wobbling

- Bent rim
- Faulty tire
- Axle not tightened properly

Soft rear shock absorber

- Weak shock absorber spring
- Faulty damper

15. REAR WHEEL/AXLE/SUSPENSION

REAR WHEEL/AXLE/AXLE HUB REMOVAL AND INSPECTION

Place the machine on a level place.
Remove the rear caliper. (Refer to the
“REAR BRAKE CALIPER
REMOVAL” section in chapter 13)

Use the nut wrench to loosen two rear axle
nuts (inner and outer) of the rear axle.

Ⓢ Note that the rear axle nuts are left
threaded.

Special

Nut wrench F010

Remove four nuts attaching the rear wheel
hub of the both rear wheels, then remove the
both rear wheels.

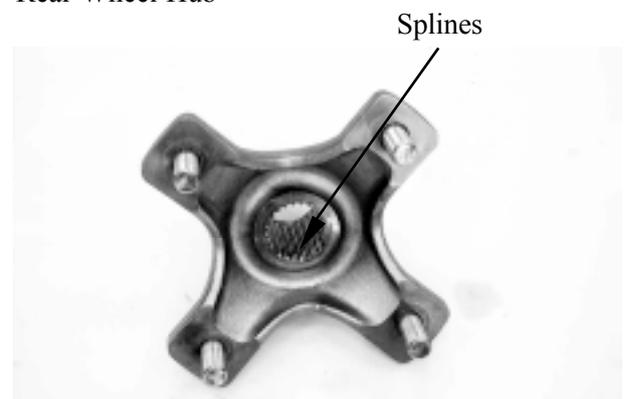
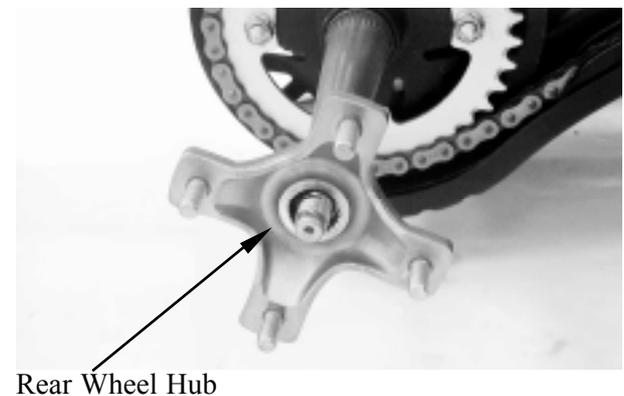
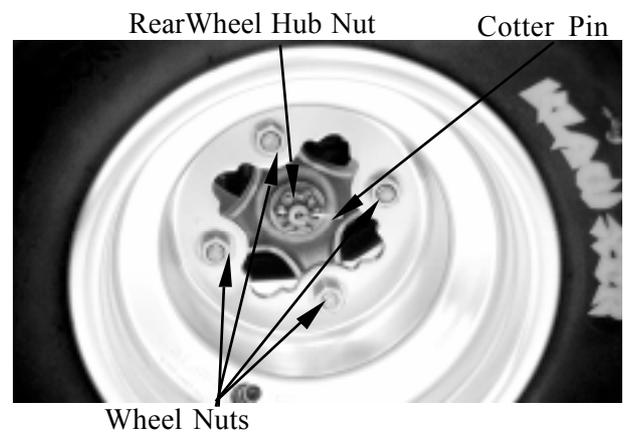
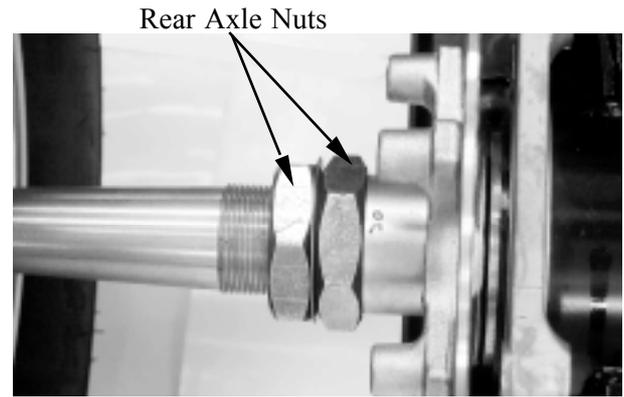
Ⓢ Elevate the rear wheels by placing a
suitable stand under the rear of frame.
Support the machine securely so there is
no danger of it falling over.

Remove the cotter pin and then remove nut.

Remove the rear wheel hub.

Inspect the rear wheel hub.
Cracks/damage _ Replace.

Inspect the rear wheel hub splines.
Wear/damage _ Replace.



15. REAR WHEEL/AXLE/SUSPENSION

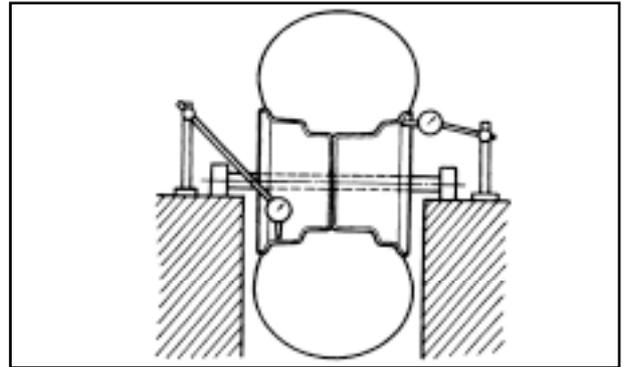
Measure the wheel runout.

Service Limit:

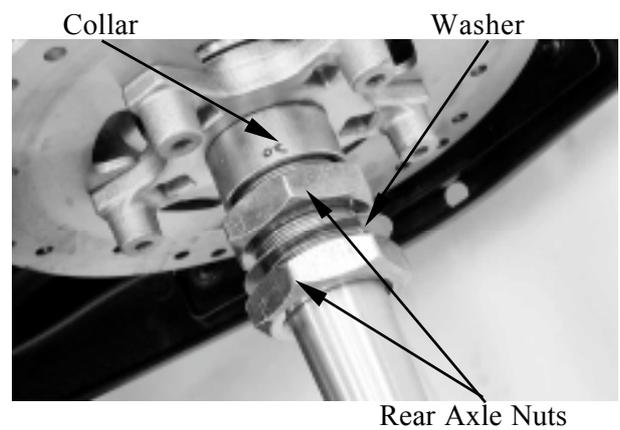
Vertical: 2.0 mm

Lateral: 2.0mm

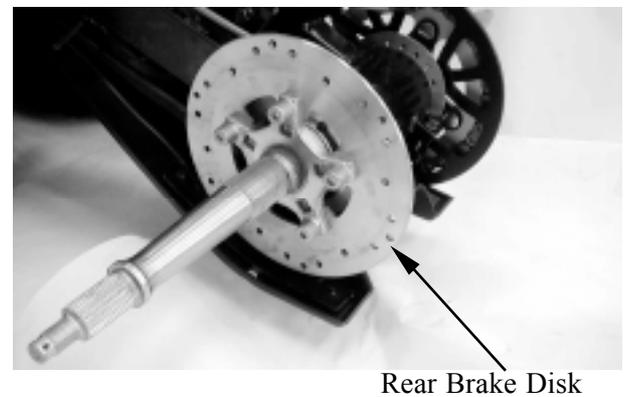
Out of specification _ Replace wheel.



Remove the two rear axle nuts (outer and inner), washer and collar.

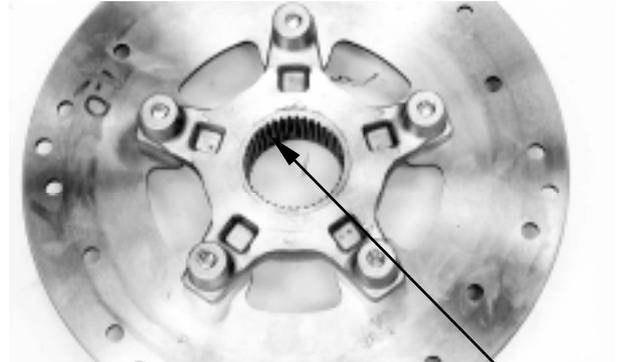


Remove the rear brake disk.



15. REAR WHEEL/AXLE/SUSPENSION

Inspect the brake disk
 Cracks/damage _ Replace.
 Inspect the brake disk splines.
 Wear/damage _ Replace.

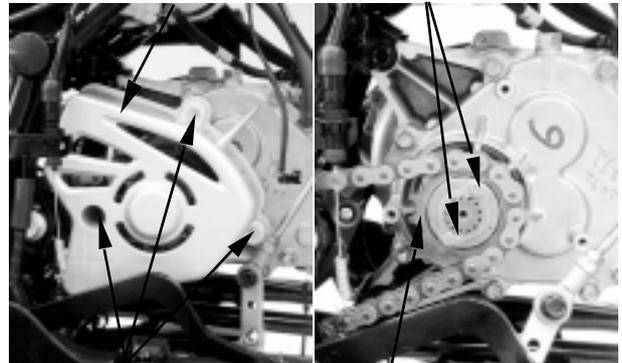


Splines

Loosen the driven chain (refer to the “DRIVE CHAIN SLACK ADJUSTMENT” section in the chapter 3) and remove the two bolts at the drive sprocket (refer to the chapter 6), then disconnect the drive chain from the driven sprocket.

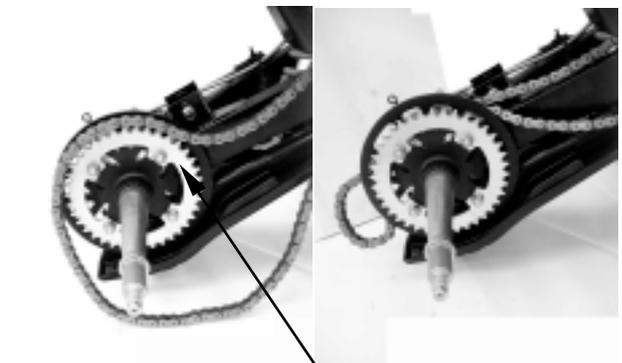
Drive Sprocket Cover

Bolts



Bolts

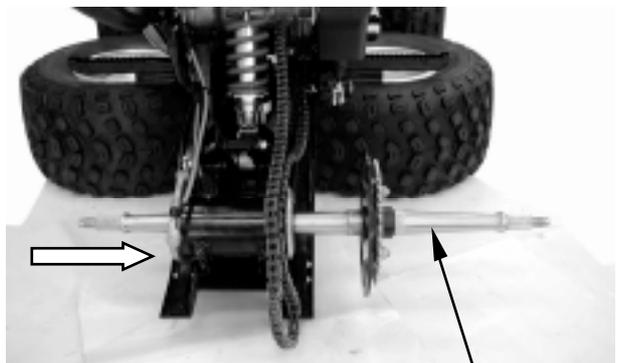
Drive Sprocket



Driven Sprocket

Remove the rear axle from right side.

Tap the axle and with a rubber hammer, this will avoid damage the axle thread.



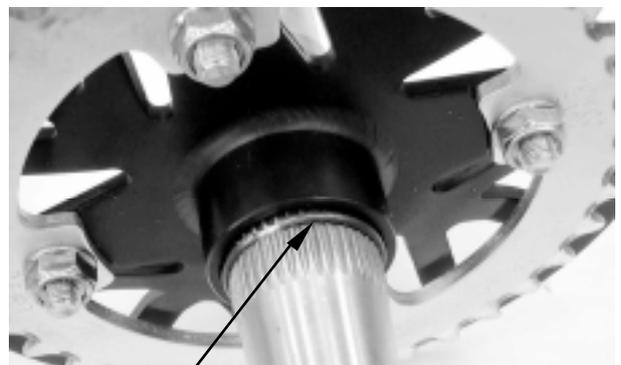
Rear Axle

15. REAR WHEEL/AXLE/SUSPENSION

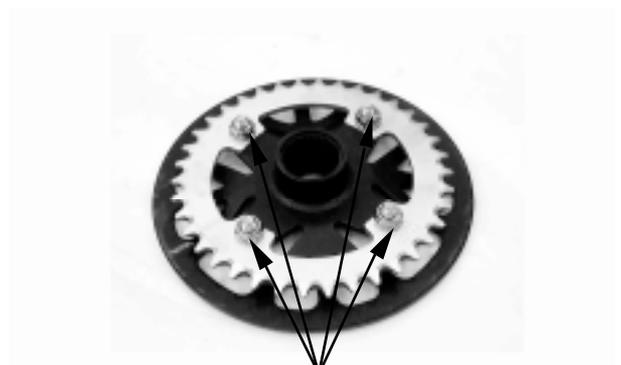
REAR AXLE DISASSEMBLY



Remove the driven sprocket clip at the rear axle and then remove the driven sprocket.



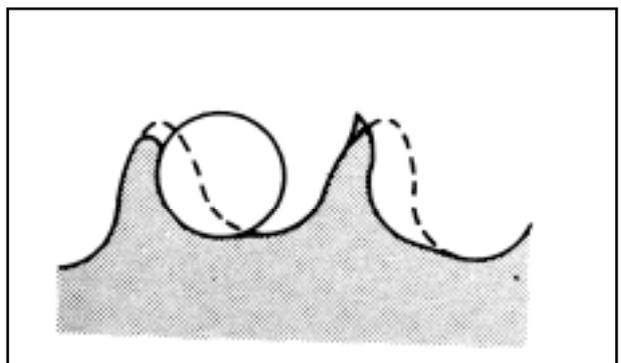
Remove the four nuts attaching the driven sprocket holder at the driven sprocket and then remove driven sprocket.



Inspect the drive sprocket and driven sprocket.

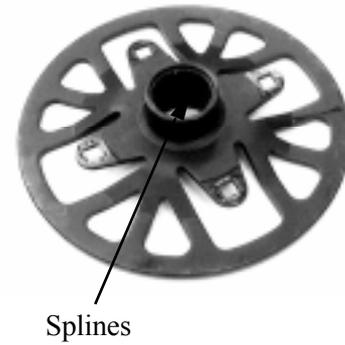
More than 1/4 teeth wear _ Replace.

Bent teeth _ Replace.



15. REAR WHEEL/AXLE/SUSPENSION

Inspect the driven sprocket holder splines.
Wear/damage _ Replace.



Inspect the rear axle.
Scratched (excessively)/damage _ Replace.
Inspect the splines and threads of the rear axle
Wear/damage _ Replace.

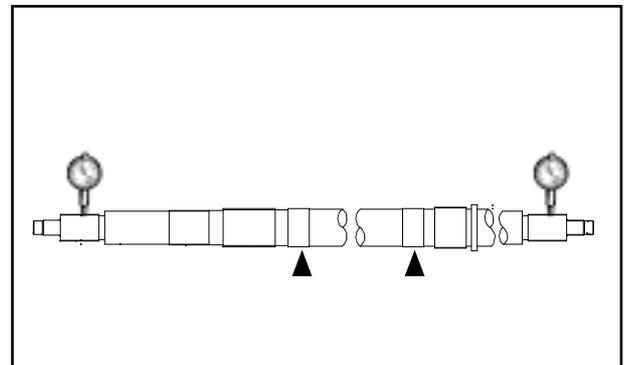


Measure the rear axle run out.
Service limit: less than 1.5mm
Out of specification _ Replace.

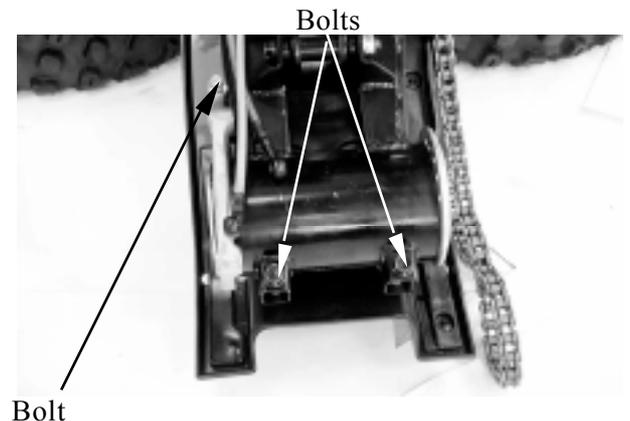
-  Do not attempt to straighten a bent axle.

REAR AXLE ASSEMBLY
Reverse the “REAR AXLE DISASSEMBLY” procedures.

-  Apply grease onto the rear axle splines.

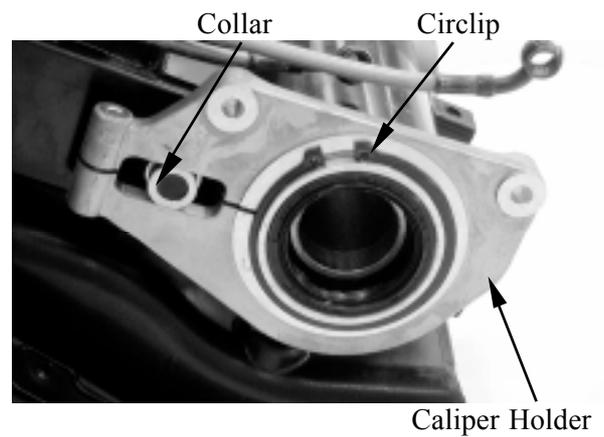


Remove the bolt at the rear caliper holder.
Remove the two bolts attaching the rear axle hub at the rear fork.

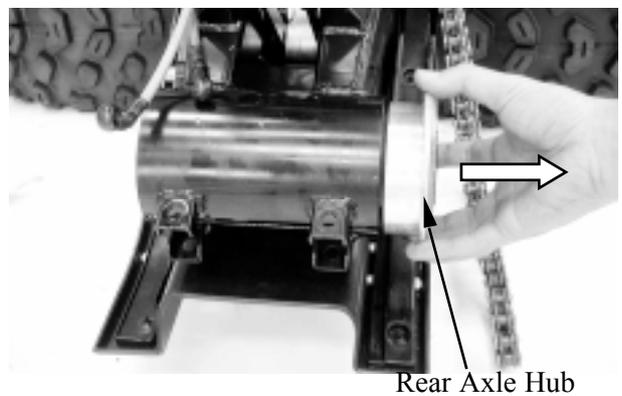


15. REAR WHEEL/AXLE/SUSPENSION

Remove the circlip at the caliper holder and then remove the caliper holder and collar.



Remove the rear axle hub from right side.



15. REAR WHEEL/AXLE/SUSPENSION

Inspect rear axle hub.

Bearings allow play in the axle hub or the bearing turns roughly _ Replace.

Oil seals is wear/damage _ Replace.

Axle hub is cracks/bend/damage _
 Replace.



REAR AXLE HUB DISASSEMBLY

Bearing and dust seal replacement steps:

Clean the outside of the rear axle hub.

Remove the dust seal by a flat-head screw driver.

- Place a wood block against the outer edge to protect this edge.

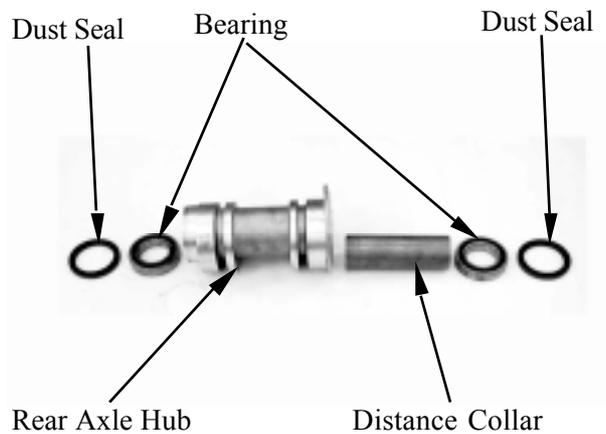
Remove the bearing by a general bearing puller.



REAR AXLE HUB ASSEMBLY

Install the new bearing and dust seal by reversing the previous steps.

- Do not strike the center race or balls of the bearing.
- Contact should be made only with the outer race.
- Make sure install the distance collar into the rear axle hub



15. REAR WHEEL/AXLE/SUSPENSION

INSTALLATION

Reverse the “REAR WHEEL/AXLE/AXLE HUB REMOVAL AND INSPECTION” procedures.

-  Apply grease onto the dust seal lips and bearings.

Install the rear axle hub.

-  At this time, the rear axle hub should not be tightened completely. Final tightening is done after the chain slack adjustment.

Install the rear axle.

Connect the drive chain.

Install the rear brake disk, collar inner nut, washer and outer nut.

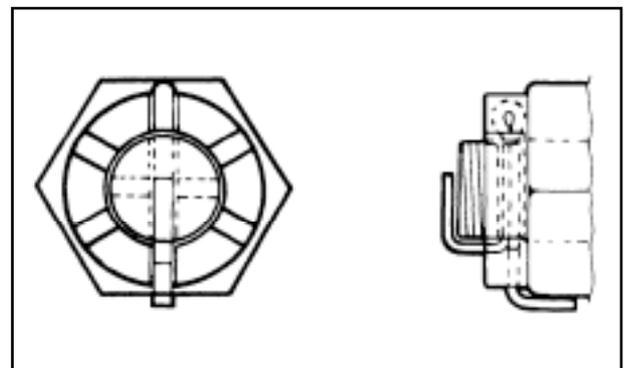
-  At this time, the nuts should not be tightened completely.

Install the rear wheel hub and tighten the nut.

Torque: 6.0_ 8.0kgf-m

Install cotter pin (new)

-  Do not loosen the axle nut after torque tightening. If the axle nut groove is not aligned with the cotter pin hole, align groove with the hole by tightening up on the axle nut. Always use a new cotter pin.

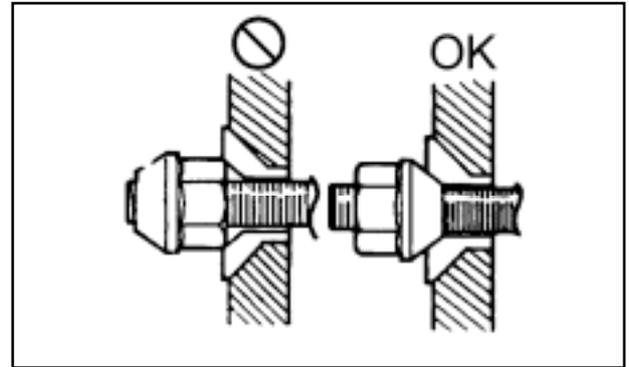


15. REAR WHEEL/AXLE/SUSPENSION

Install the rear wheel and tighten the four nuts.

Torque: 5.0_ 6.0kgf-m

Ⓞ Be sure the tapered side of the wheel nuts face the wheel rim.



Tighten the two rear axle nuts (inner and outer).

Ⓞ Note that the rear axle nuts are left threaded.

Special

Nut wrench F010

Torque: 11.0_ 13.0kgf-m



Adjust drive chain slack. (Refer to the "DRIVE CHAIN SLACK ADJUSTMENT" section in the CHAPTER 3.)

Approximately: 30 mm

15. REAR WHEEL/AXLE/SUSPENSION

REAR FORK/SWIM ARM/SHOCK ABSORBER REMOVAL AND INSPECTION

Place the machine on a level place.

Elevate the rear wheels by placing a suitable stand under the rear of frame.

- Support the machine securely so there is no danger of it falling over.

Remove the rear wheels, rear axle and rear hub.

Refer to the “REAR WHEEL/AXLE/AXLE HUB REMOVAL AND INSPECTION” section in chapter 15.

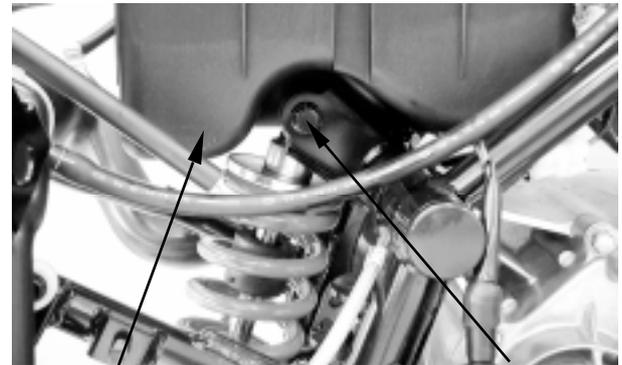
Remove the two bolts at the air cleaner case. (Refer to the “CARBURETOR REMOVAL” section in chapter 5.)

Elevate the air cleaner case and remove the upper mount bolt at the rear shock absorber

Remove the four bolts at the lower guard and then remove the lower guard.

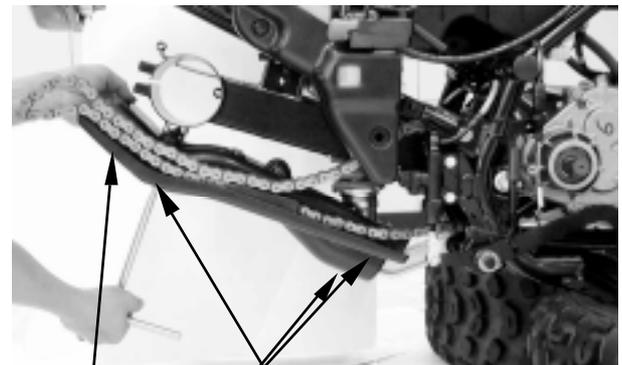
- When removing the lower guard, hold the swing arm so that it does not drop downwards when the lower guard is removed.

Remove the lower mount bolt at the rear shock absorber and then remove the shock absorber and bush.



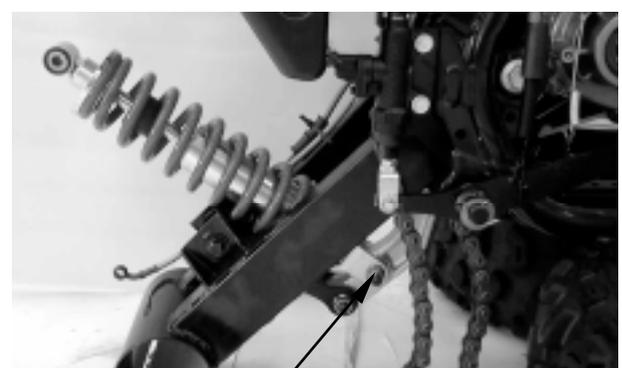
Air Cleaner Case

Bolt



Lower Guard

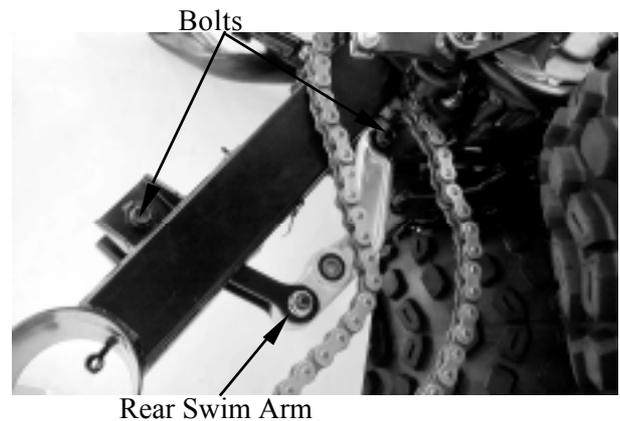
Bolts



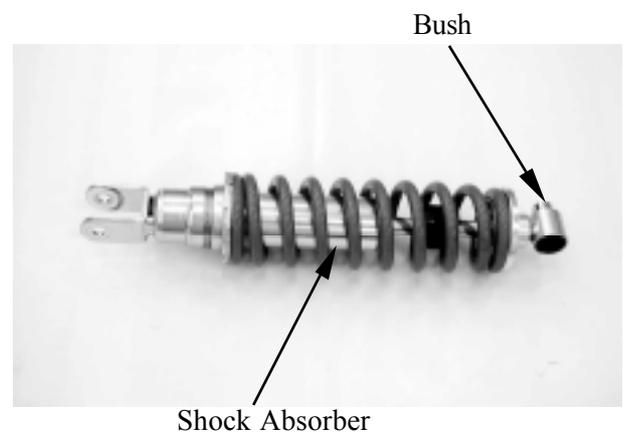
Lower Bolt

15. REAR WHEEL/AXLE/SUSPENSION

Remove the two bolts attaching the rear swing arm at the rear fork and then remove the rear swing arm.

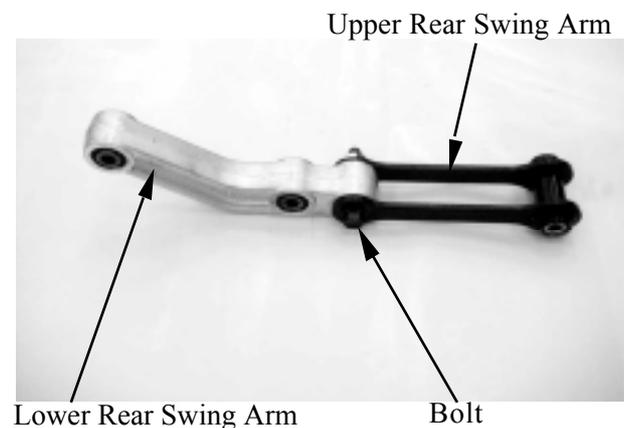


Inspect the shock absorber rod.
 Bends/damage _ Replace the shock absorber assembly.
 Inspect the shock absorber.
 Oil leaks _ Replace the shock absorber assembly.
 Inspect the spring.
 Fatigue _ Replace the shock absorber assembly.
 Move the spring up and down.
 Inspect the bush.
 Wear/damage _ Replace.

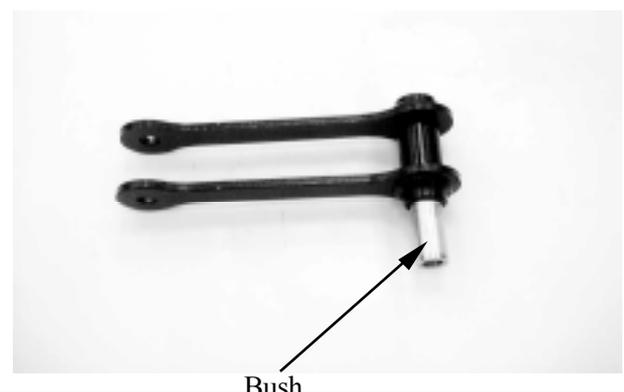


REAR SWING ARM DISASSEMBLY

Remove the bolt attaching the lower rear swing arm at the upper rear swing arm and then disconnect the upper rear swing arm from the lower rear swing arm.



Inspect the upper rear swing arm.
 Bends/damage _ Replace.
 Inspect the bush.
 Wear/damage _ Replace.



15. REAR WHEEL/AXLE/SUSPENSION

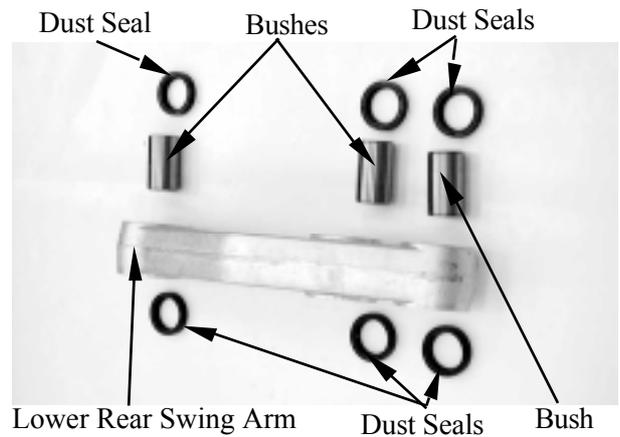
Remove the dust seals and the bushes from the lower rear swing arm.

Inspect the lower rear swing arm.

Wear/damage _ Replace.

Inspect the bush.

Wear/damage _ Replace.



Inspect the needle bearings.

Bring allow play in the lower rear swing arm or bearing turns roughly _ Replace.

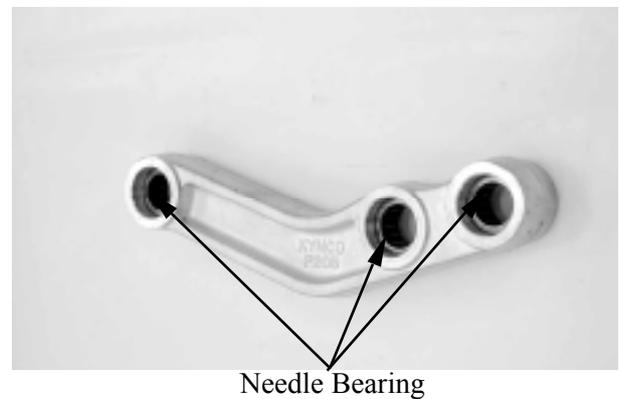
REAR SWING ARM ASSEMBLY

Reverse the “REAR SWING ARM DISASSEMBLY” procedures.

◦ Apply grease onto the oil seal lips, needle bearing and bushes.

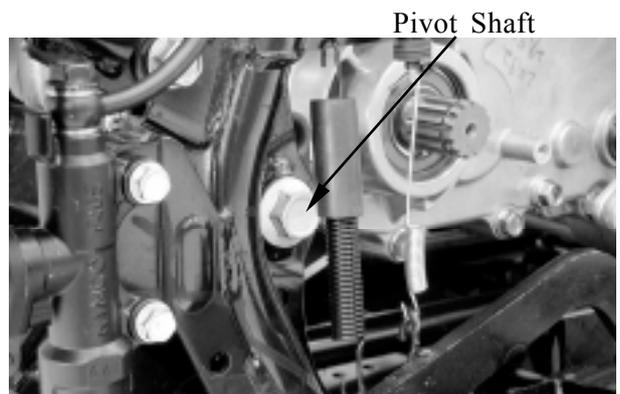
Install the upper rear swing arm and tighten the bolt.

Torque: 3.5_ 4.5kgf-m



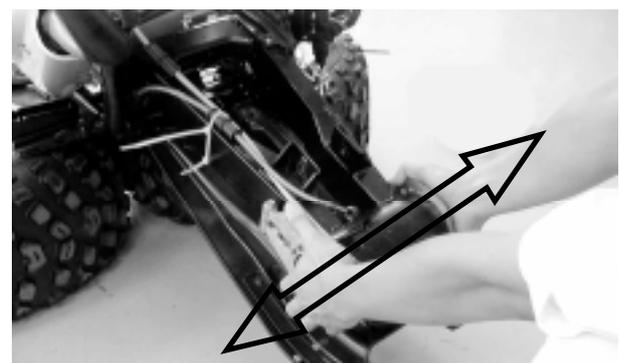
Check the tightening torque of the pivot shaft (rear fork) securing nut.

Torque: 6.0_ 8.0kgf-m



Check the rear fork side play by moving it from side to side.

If side play noticeable, check the inner collar, bearing, bushing and thrust cover, or adjust the shim.



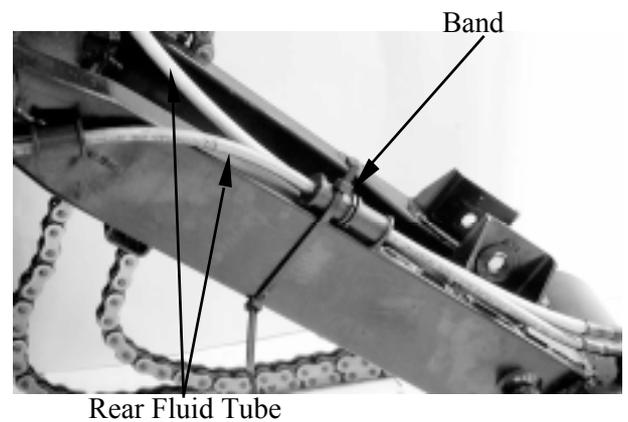
15. REAR WHEEL/AXLE/SUSPENSION

Check the rear fork vertical movement by moving it up and down.

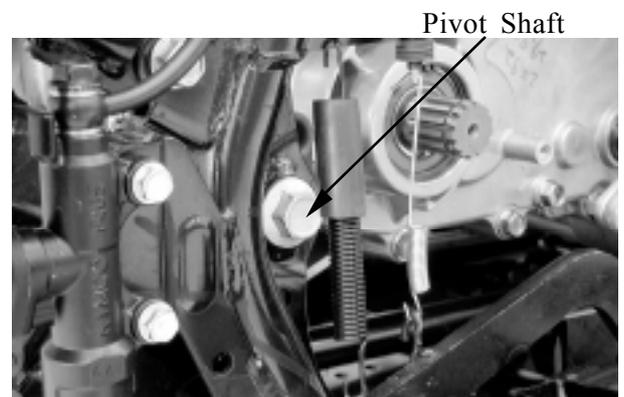
If vertical movement is tight, binding or rough, check the inner collar, bearing, bushing and thrust cover, or adjust the shim.



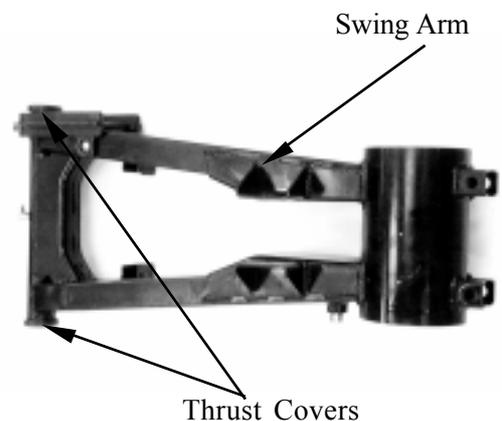
Remove the band and then disconnect the rear brake fluid tubes from the rear fork.



Remove the nut and pivot shaft, then remove rear fork and drive chain.



Remove the thrust covers.



15. REAR WHEEL/AXLE/SUSPENSION

Inspect the rear fork.

Crack/bend/damage _ Replace.

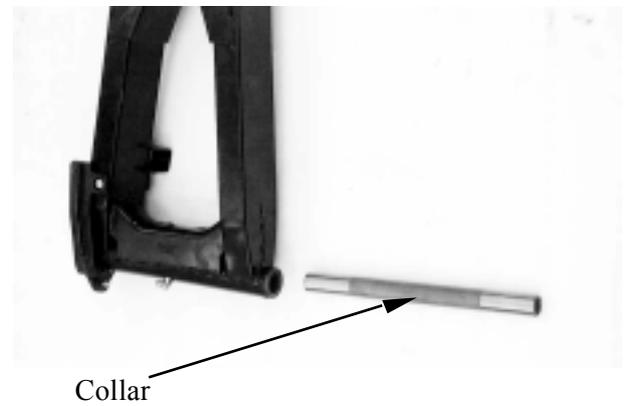
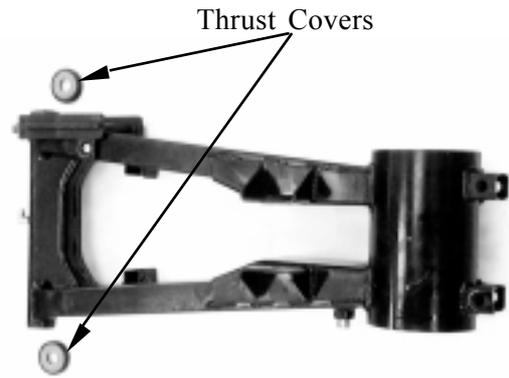
Roll the axle on a flat surface to inspect the pivot shaft.

Bends _ Replace.

Do not attempt to straighten a bent axle.

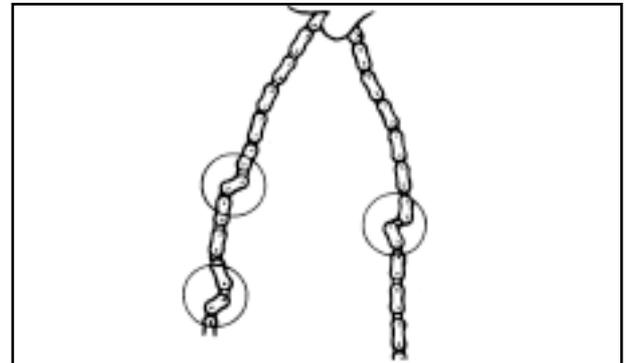
Inspect the thrust covers, collar and bushes.

Wear/damage _ Replace.



Inspect the drive chain stiffness.

Stiff _ Clean and lubricate or replace.



15. REAR WHEEL/AXLE/SUSPENSION

INSTALLATION

Reverse the “REAR FORK/SWIM ARM/SHOCK ABSORBER REMOVAL AND INSPECTION” procedure.

Apply grease onto the collar, bush, pivot shaft and thrust cover.



Install the rear fork and tightening the nut and pivot shaft.

Torque: 6.0_ 8.0kgf-m



Install the rear swing arm and tightening the bolts.

Torque: 3.5_ 4.5kgf-m



Install the shock absorber and tightening the bolts.

Torque: 3.5_ 4.5kgf-m

Install the rear hub and rear wheels.

Refer to the “REAR WHEEL INSTALLATION” section.

Adjust the drive chain slack.

Refer to the “DRIVE CHAIN SLACK ADJUSTMENT” section in the CHAPTER 3.

Approximately: 30 mm