



SERVICE INFORMATION	15- 1
TROUBLESHOOTING	15- 1
REAR WHEEL	15- 2
SHOCK ABSORBER	15- 8
SWING ARM	15-12

SERVICE INFORMATION

GENERAL INSTRUCTIONS

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

TOOLS

Common

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
Retainer wrench A	07710-0010300
Retainer wrench body	07710-0010401

Special

Fork seal driver	07947-3710100
Swingarm pivot lock nut wrench	07908-4690001 or M9500-350-91914
Socket bit 10 mm	07917-3710000

TORQUE VALUES

Rear brake disc	2.7-3.3 kg-m (20-24 ft-lb)
Rear axle nut	8.0-10.0 kg-m (58-72 ft-lb)
Rear axle pinch bolt	2.4-2.9 kg-m (17-21 ft-lb)
Rear shock absorber	3.0-4.0 kg-m (22-29 ft-lb)
Rear brake torque link	1.8-2.5 kg-m (13-18 ft-lb)
Swing arm pivot bolt	5.0-7.0 kg-m (36-51 ft-lb)
Swing arm pivot adjusting bolt	1.6-2.0 kg-m (12-14 ft-lb)
Swing arm pivot bolt lock nut	5.0-7.0 kg-m (36-51 ft-lb)
3-way joint lock nut	1.9-2.3 kg-m (14-17 ft-lb)
Air pressure switch	0.8-1.2 kg-m (6- 9 ft-lb)
Air hose (to 3-way joint)	1.5-2.0 kg-m (11-14 ft-lb)
(to shock absorber)	0.4-0.7 kg-m (3- 5 ft-lb)
Air hose connector	0.4-0.7 kg-m (3- 5 ft-lb)
Air valve	0.4-0.7 kg-m (3- 5 ft-lb)

SPECIFICATIONS

		STANDARD	SERVICE LIMIT
Axle runout		—	0.2 mm (0.01 in)
Rear wheel rim runout	Radial	—	2.0 mm (0.08 in)
	Axial	—	2.0 mm (0.08 in)
Shock absorber air pressure		2.0-4.5 kg/cm ² (28-64 psi)	—
Shock absorber fluid capacity		365 cc (12.5 ozs)	—

TROUBLESHOOTING

Oscillation

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

Soft Suspension

1. Weak spring
2. Insufficient fluid in shock absorber
3. Shock absorber air pressure incorrect

Hard Suspension

1. Incorrect fluid weight in shock absorber
2. Bent shock absorber
3. Shock absorber air pressure incorrect

Suspension Noise

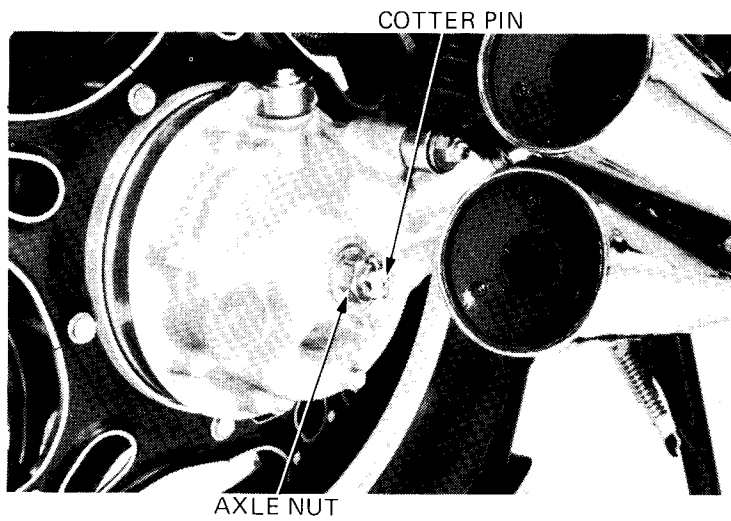
1. Shock case binding
2. Loose fasteners



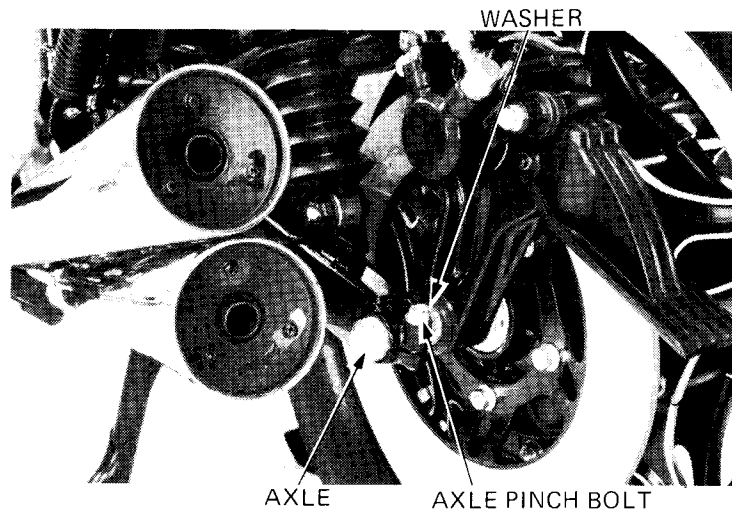
REAR WHEEL

REMOVAL

Place the motorcycle on its center stand.
Remove the cotter pin and loosen the axle nut.

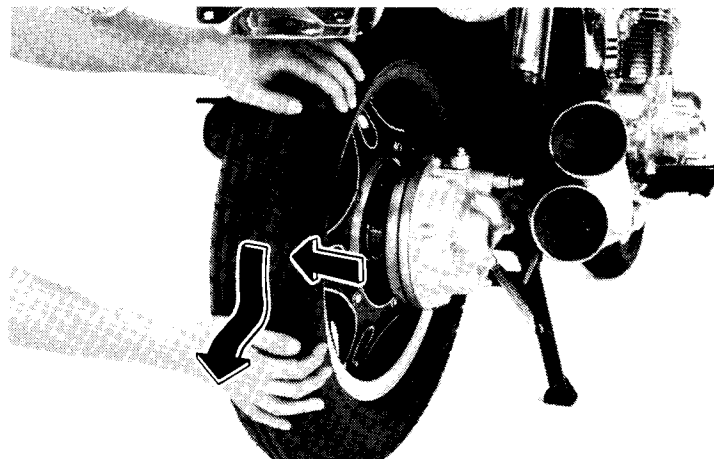


Loosen the axle pinch bolt.
Remove the rear axle and washer.



Raise the rear brake caliper and move the rear wheel to the left to separate the rear wheel from the final drive gear case.

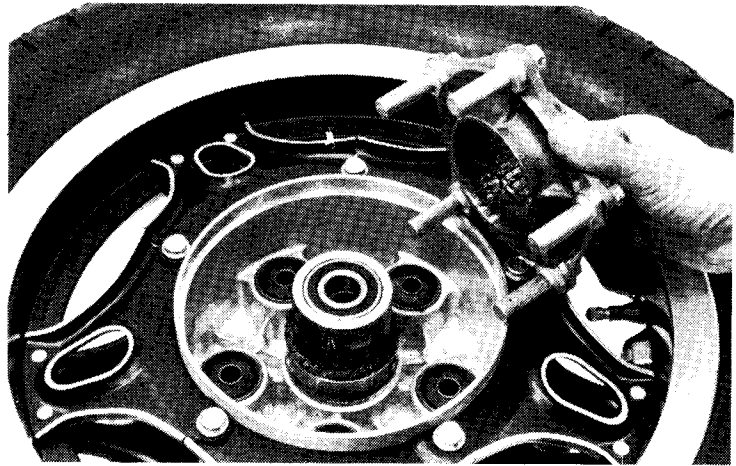
Remove the rear wheel.



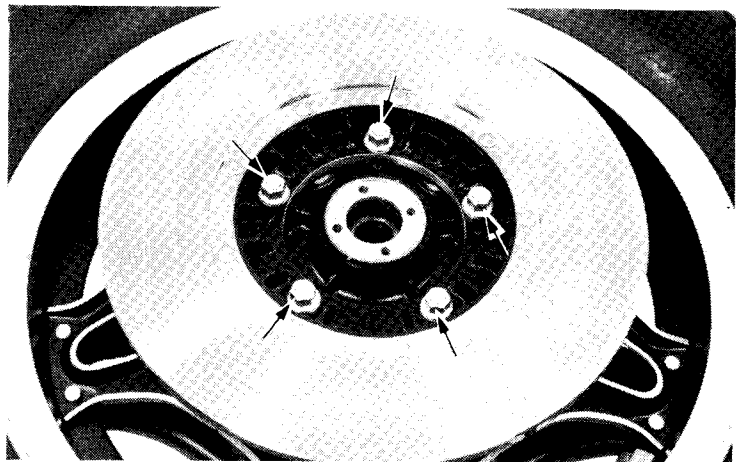


DISASSEMBLY

Remove the final driven flange.

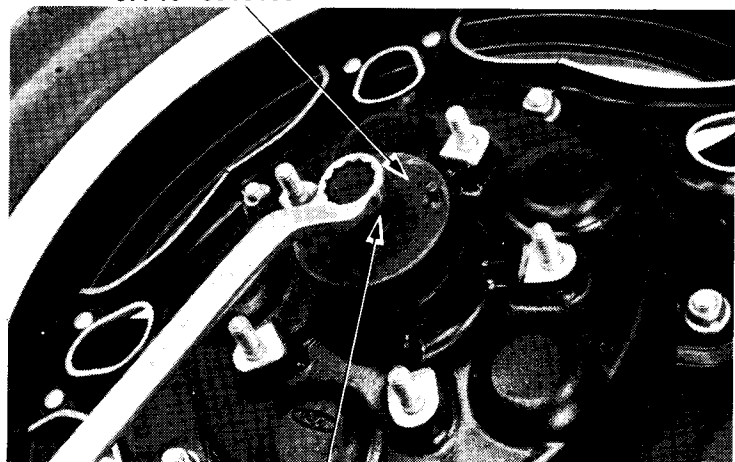


Remove the brake disc.



Remove the bearing retainer.

RETAINER WRENCH A
07710-0010100



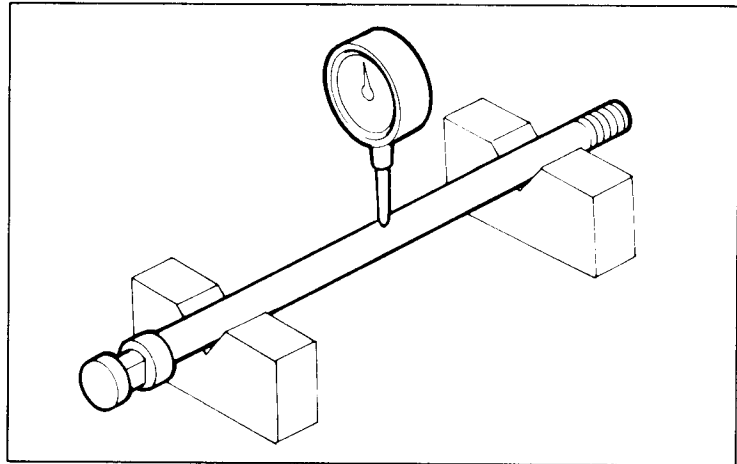
RETAINER WRENCH BODY
07710-0010401

AXLE INSPECTION

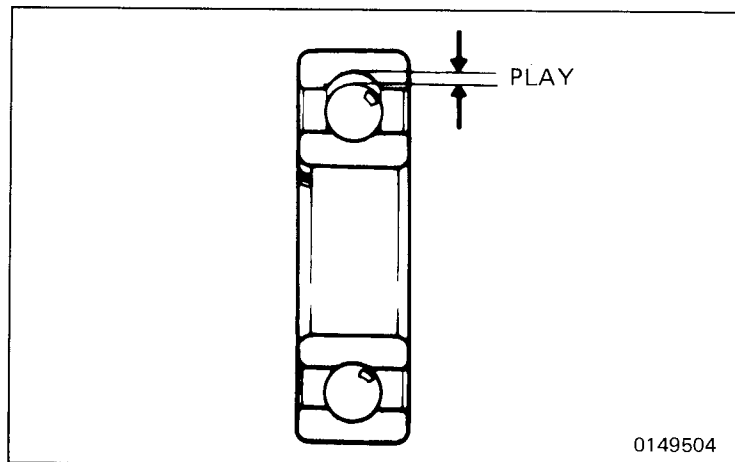
Set the axle in V blocks and read the axle runout.

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

SERVICE LIMIT: 0.2 mm (0.01 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.

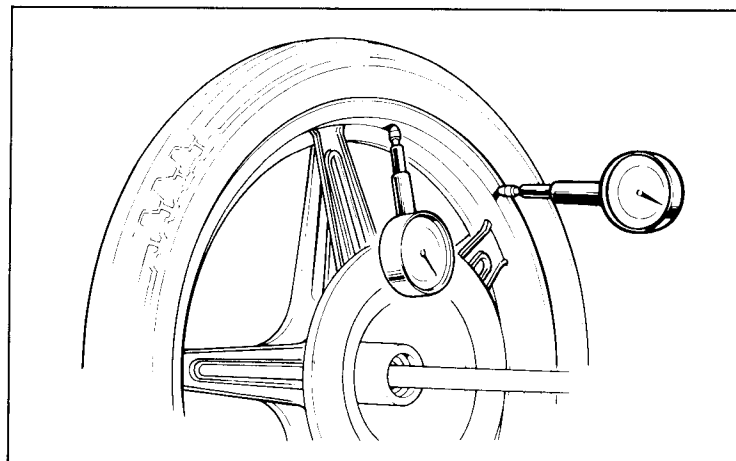
SERVICE LIMITS:

RADIAL RUNOUT: 2.0 mm (0.08 in)

AXIAL RUNOUT: 2.0 mm (0.08 in)

NOTE

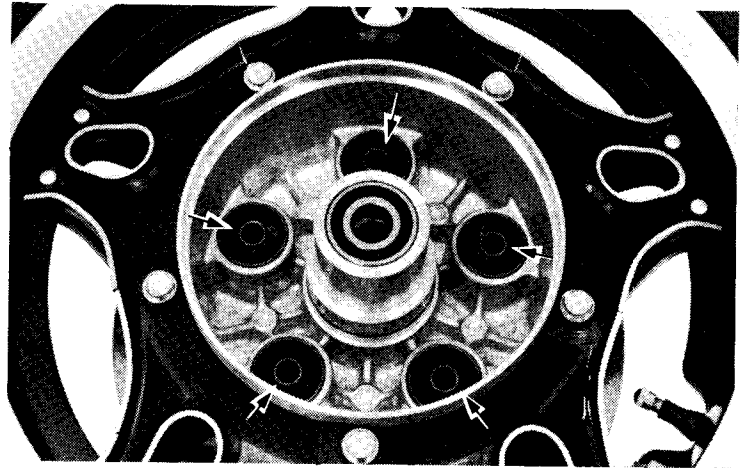
The COMSTAR WHEEL cannot be serviced and must be replaced if the above limits are exceeded.





DAMPER RUBBER INSPECTION

Replace the damper rubbers if they are damaged or deteriorated.



ASSEMBLY

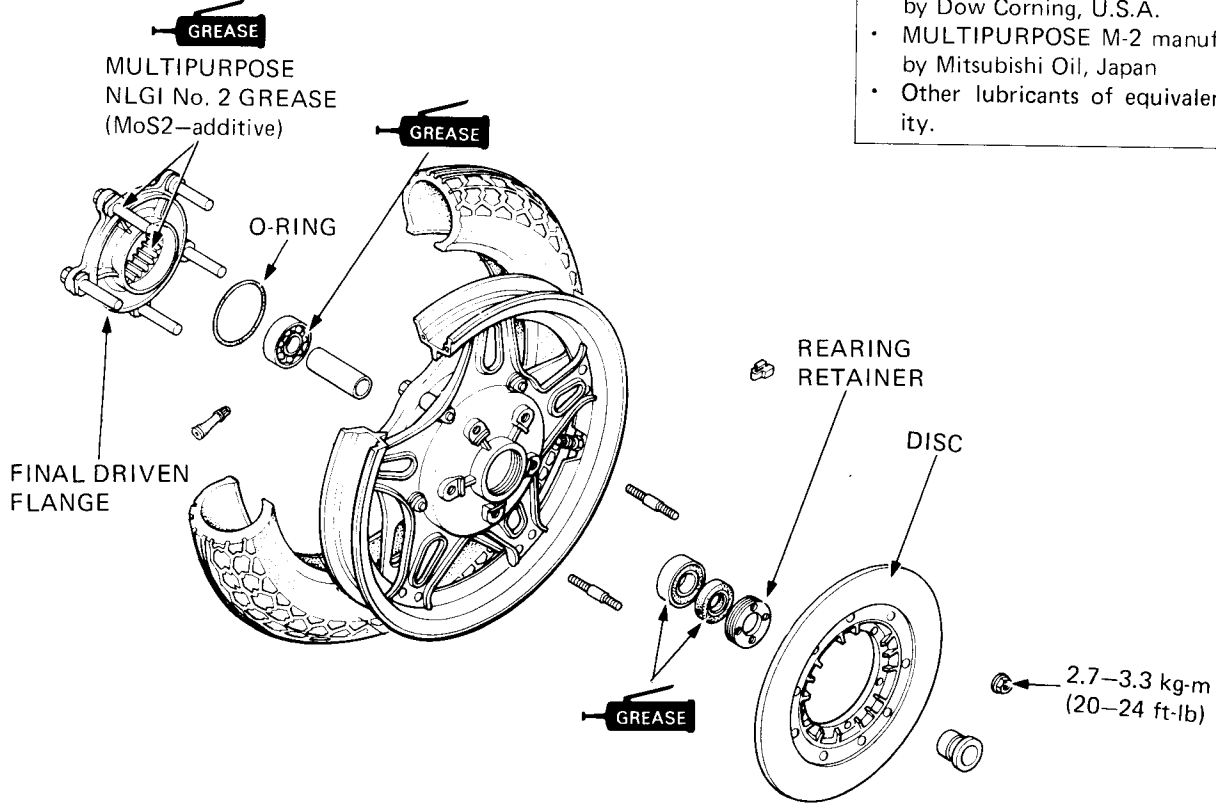
NOTE

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

NOTE

Use lithium-based MULTIPURPOSE grease with MoS₂-additive as follows:

- MOLYKOTE BR2-S manufactured by Dow Corning, U.S.A.
- MULTIPURPOSE M-2 manufactured by Mitsubishi Oil, Japan
- Other lubricants of equivalent quality.



WARNING

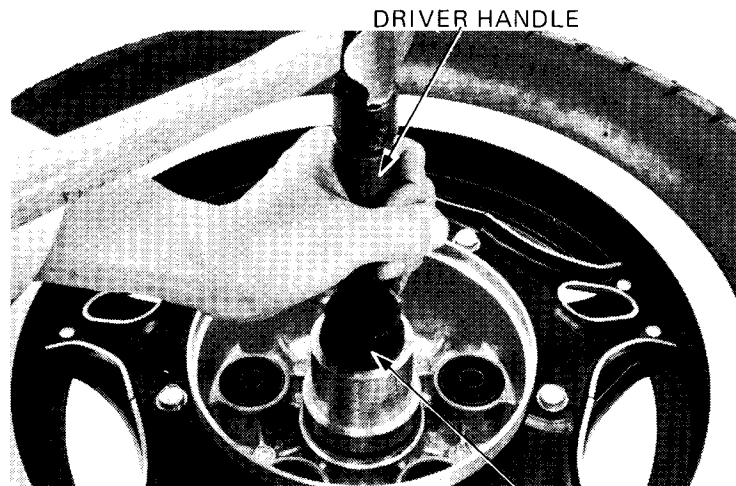
Do not get grease on the brake disc.



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.*

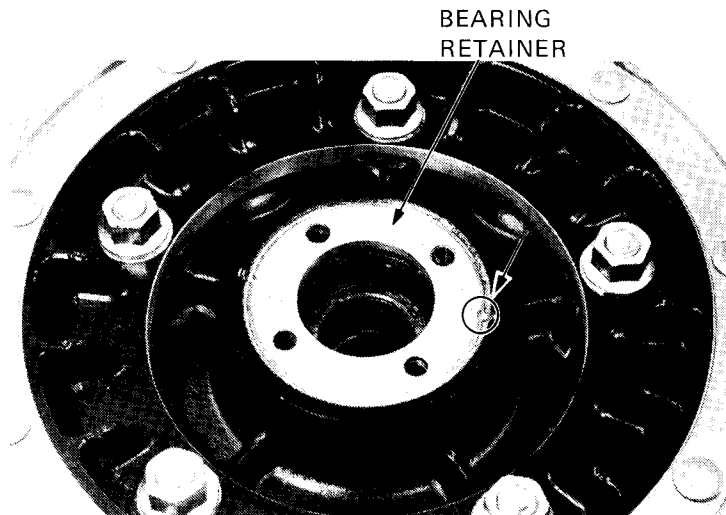


DRIVER HANDLE
 BEARING DRIVER 62 x 68 mm
 DRIVER PILOT 20 mm

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.



BEARING
 RETAINER

Install the rear brake disc and nut.

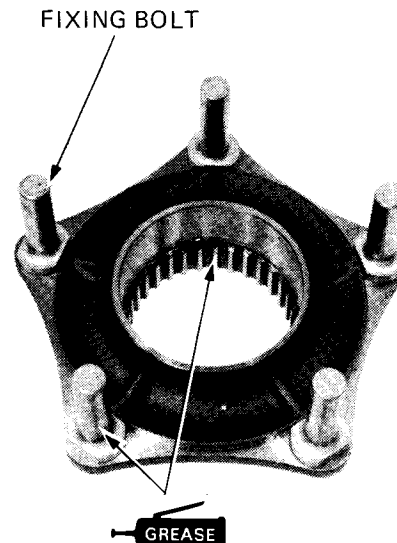
TORQUE: 2.7–3.3 kg-m, (20–24 ft-lb)

Clean the brake disc with a high quality degreasing agent.

Install the fixing bolts as shown.
 Tighten the new nut.

Apply MULTIPURPOSE NLGI No. 2 Grease (MoS₂-additive) to the fixing bolts and inside of the final driven flange.

Install the final driven flange onto the rear wheel.



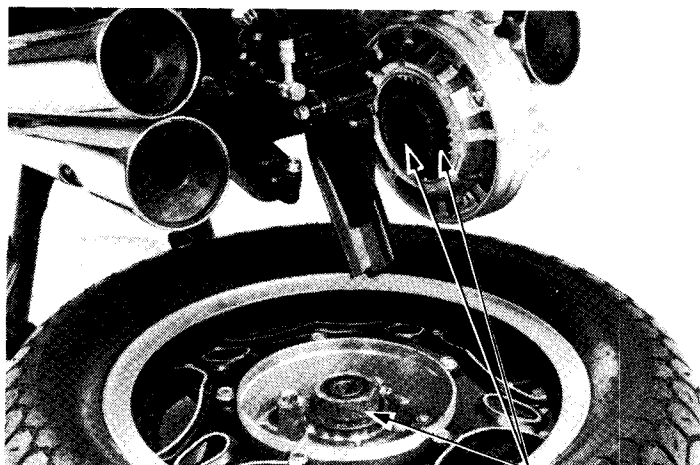
FIXING BOLT

GREASE



INSTALLATION

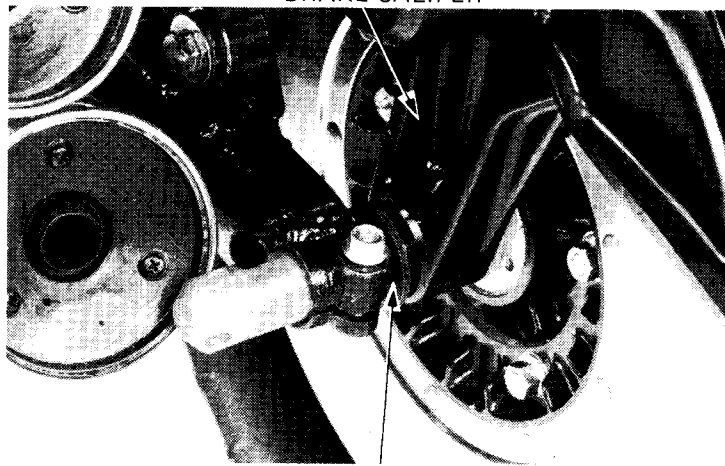
Apply MULTIPURPOSE NLGI No. 2 Grease (MoS₂-additive) to the final driven flange spline of the rear wheel and ring gear.



GREASE LITHIUM BASED MULTIPURPOSE GREASE

Install the rear wheel.
Insert the rear axle through the swing arm, washer and brake caliper.

BRAKE CALIPER



WASHER

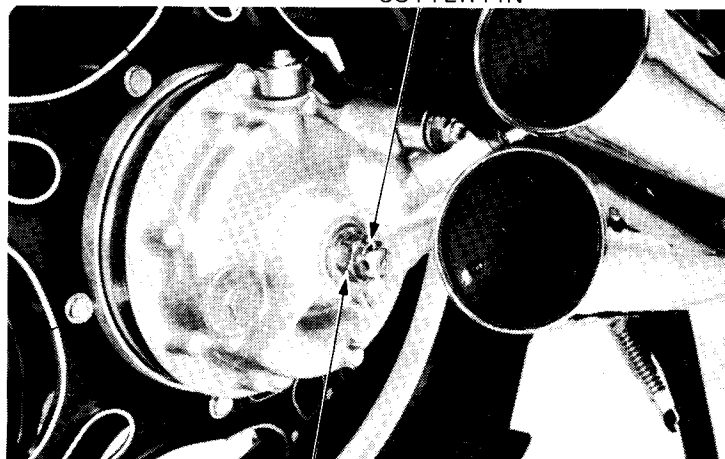
Tighten the axle nut.

TORQUE: 8.0–10.0 kg-m (58–72 ft-lb)

Tighten the axle pinch bolt.

TORQUE: 2.4–2.9 kg-m (17–21 ft-lb)

COTTER PIN



AXLE NUT

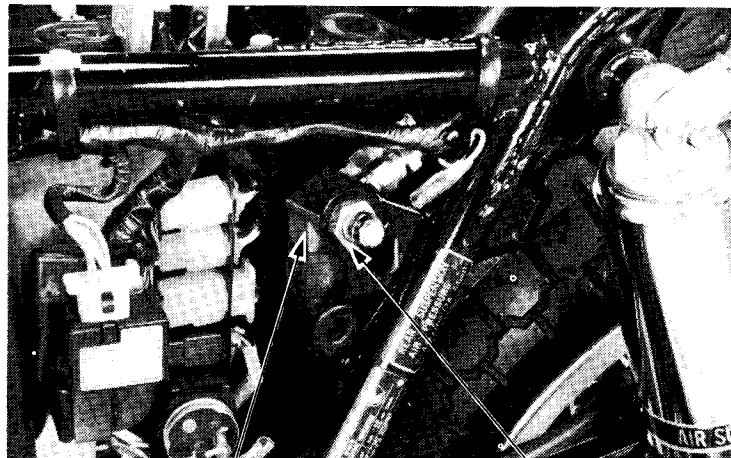


SHOCK ABSORBER

REMOVAL

Remove the left side cover.
 Remove the air valve cap and disconnect the switch wire.

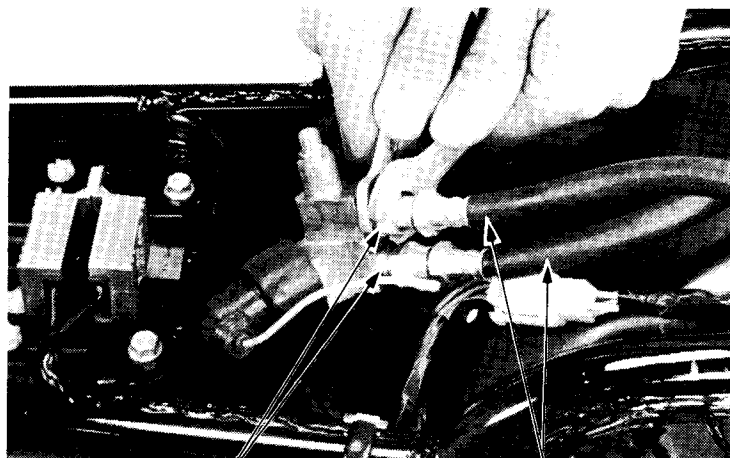
Remove the 3-way joint setting nut.
 Remove the 3-way joint.



3-WAY JOINT

LOCK NUT

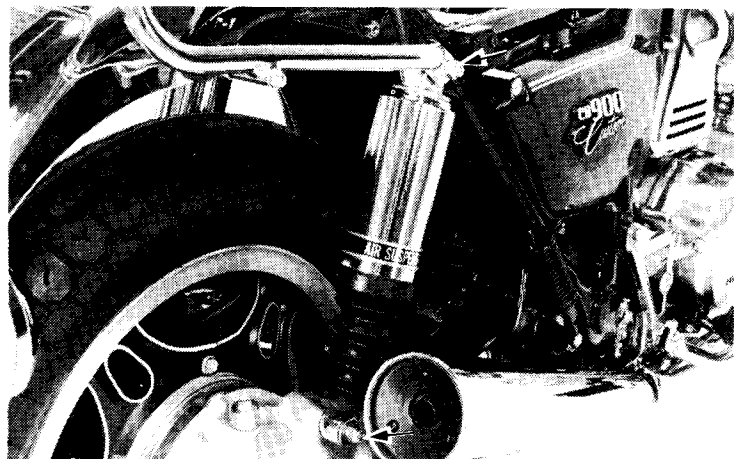
Disconnect the air hoses from the 3-way joint.



CONNECTOR

AIR HOSE

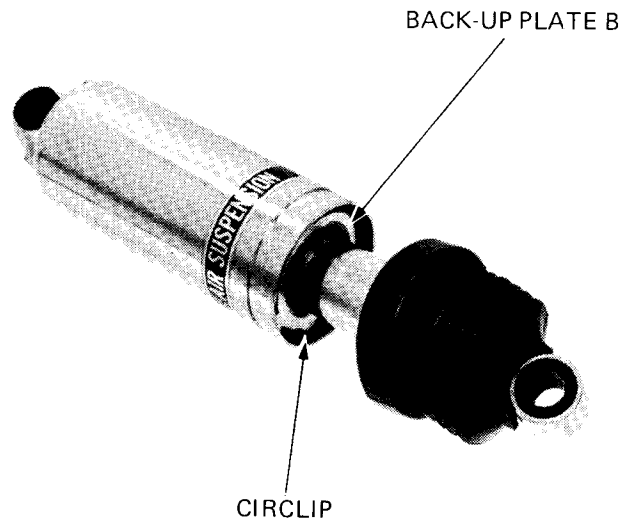
Remove the rear shock absorber.





DISASSEMBLY

Disconnect the airhose.
Remove the boot.
Remove the circlip and back-up plate "B".
Turn the shock upside down and drain as much oil as possible.

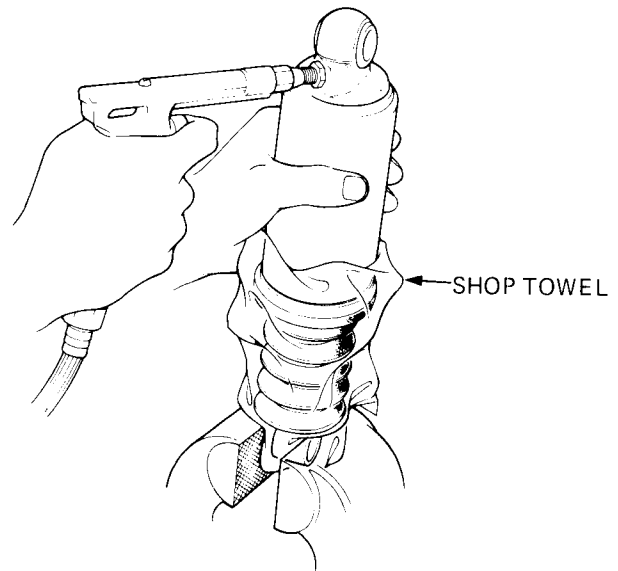


Reconnect the boot to the shock outer.
Place the shock lower mount in a vise with soft jaws.
Place a shop towel around the boot area to prevent oil splashing.

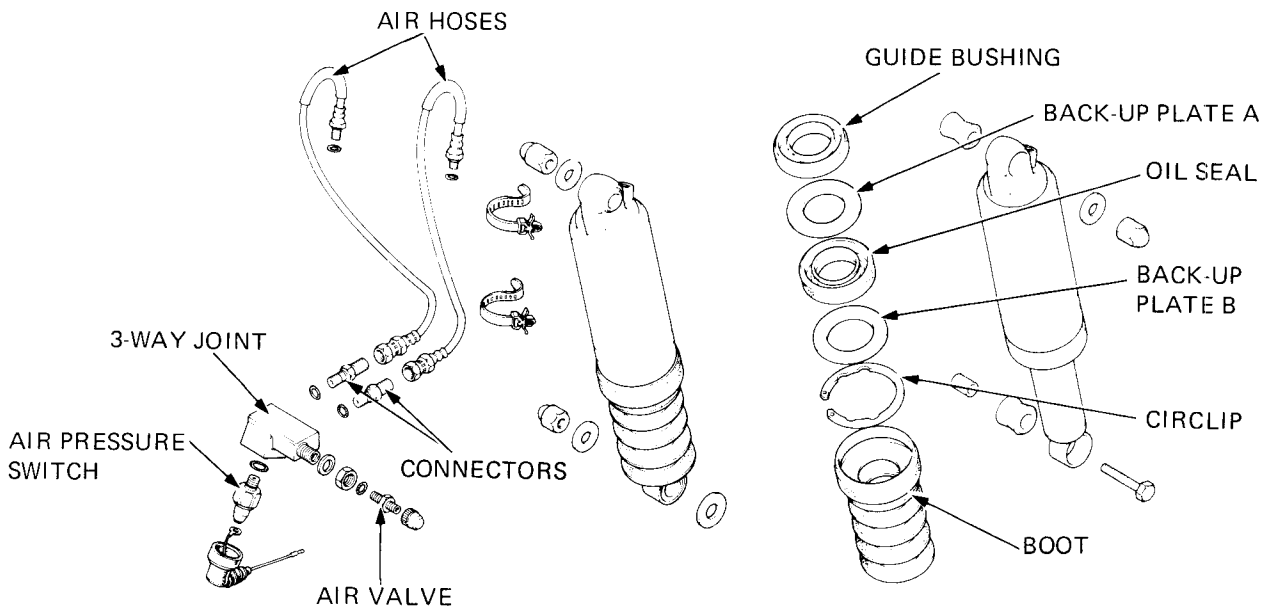
WARNING

Do not hold the shock below the seal during the next operation because the seal, back-up plate and the guide bushing will come out with force. Wear eye and face protection.

Remove the oil seal by applying compressed air. The seal may stick, therefore small air spurts may be necessary.
Drain the shock oil.
Remove back-up plate A and the guide bushing.



Check the guide bushing for wear.





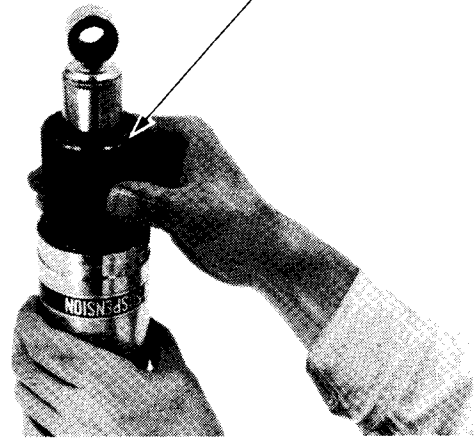
ASSEMBLY

Clean all the disassembled parts.
Fill the shock absorber with ATF

CAPACITY: 365 cc (12.5 ozs)

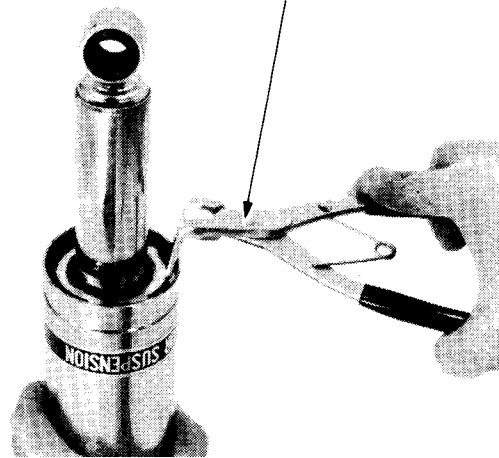
Install the guide bushing and back-up plate A.
Dip a new oil seal in ATF.
Install the oil seal and back up plate.
Drive them into the shock absorber.

FORK SEAL DRIVER
07947-3710100



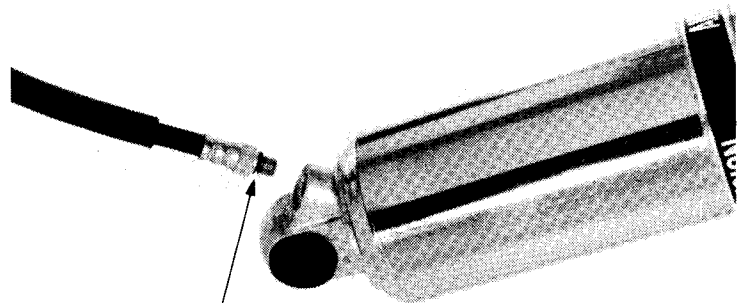
Install the circlip with the sharp edge facing up.
Install the boot.

CIRCLIP PLIERS
07914-3230001



Apply grease to a new air hose connector
O-ring.
Install the air hose.

TORQUE: 0.4-0.7 kg-m (3-5 ft-lb)



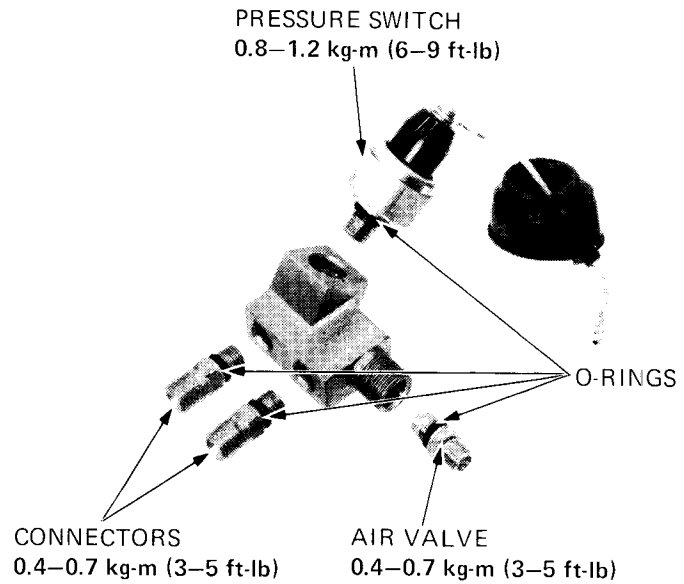
O-RING



INSTALLATION

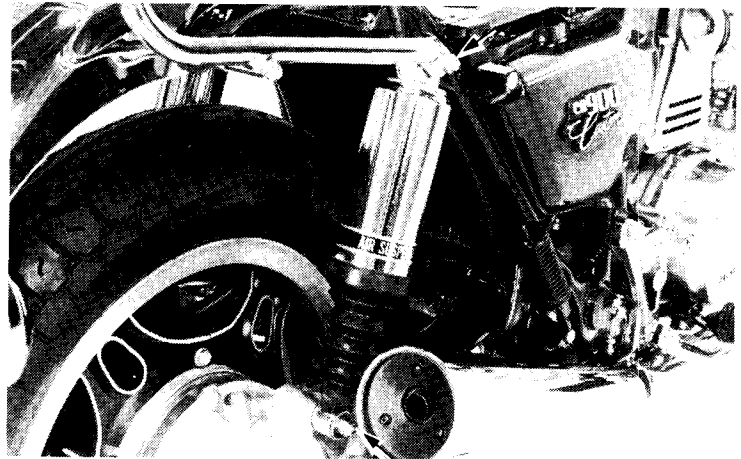
Apply grease to new O-rings.

Install the connectors, air valve and air pressure switch.



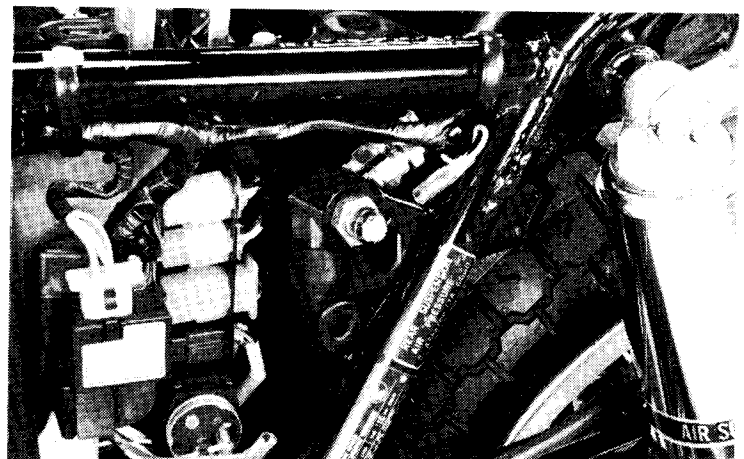
Install the shock absorber.

TORQUE: 3.0–4.0 kg-m (22–29 ft-lb)



Connect the air hose to the 3-way joint.
Install the 3-way joint and connect the switch wire.

Fill the rear shock absorber with air to 2.0–4.5 kg/cm² (28–64 psi).



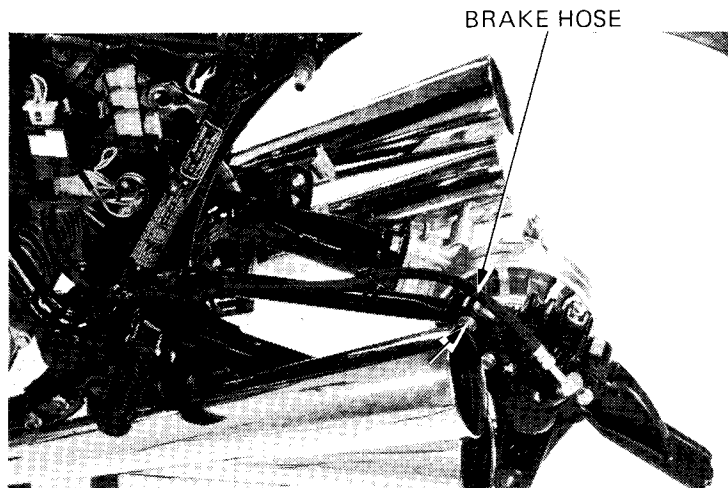


SWING ARM

REMOVAL

Remove the rear wheel (page 15-2).
Remove the rear shock absorber lower mounting bolt and nut.
Remove the brake hose from the swing arm.

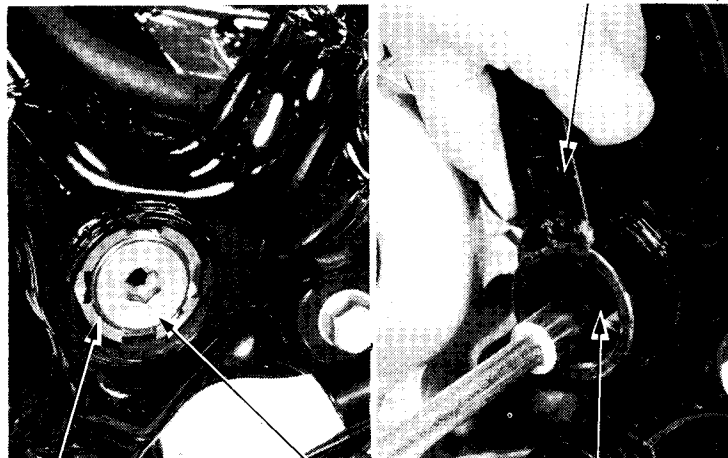
Remove the cotter pin and remove the rear brake caliper.
Remove the final drive gear.



BRAKE HOSE

Remove the left swing arm pivot cap.
Loosen the lock nut and remove the swing arm pivot adjusting bolt.

SWING ARM PIVOT
LOCK NUT WRENCH
07908-4690001 (U.S.A. Only)



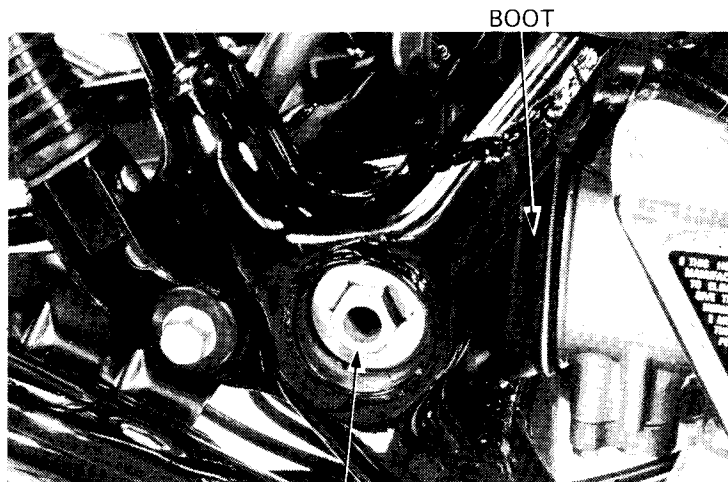
LOCK NUT

ADJUSTING BOLT

SOCKET BIT 10 mm
07917-3710000

Remove the right swing arm pivot cap.
Remove the right swing arm pivot bolt.
Remove the swing arm.

Detach the rubber boot and remove the universal joint circlip.



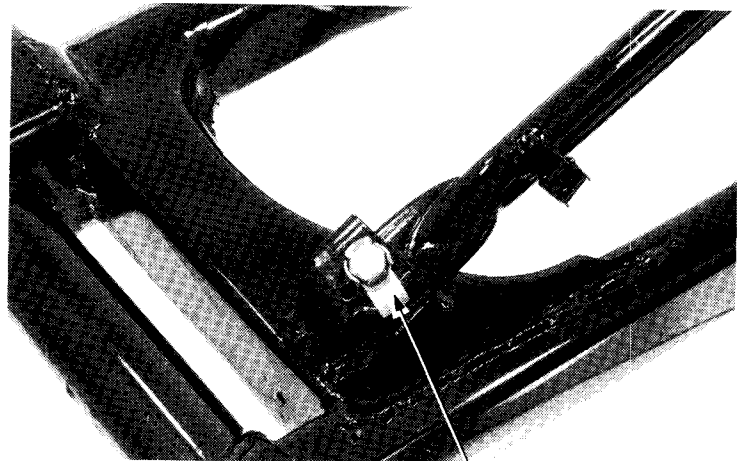
BOOT

PIVOT BOLT



DISASSEMBLY

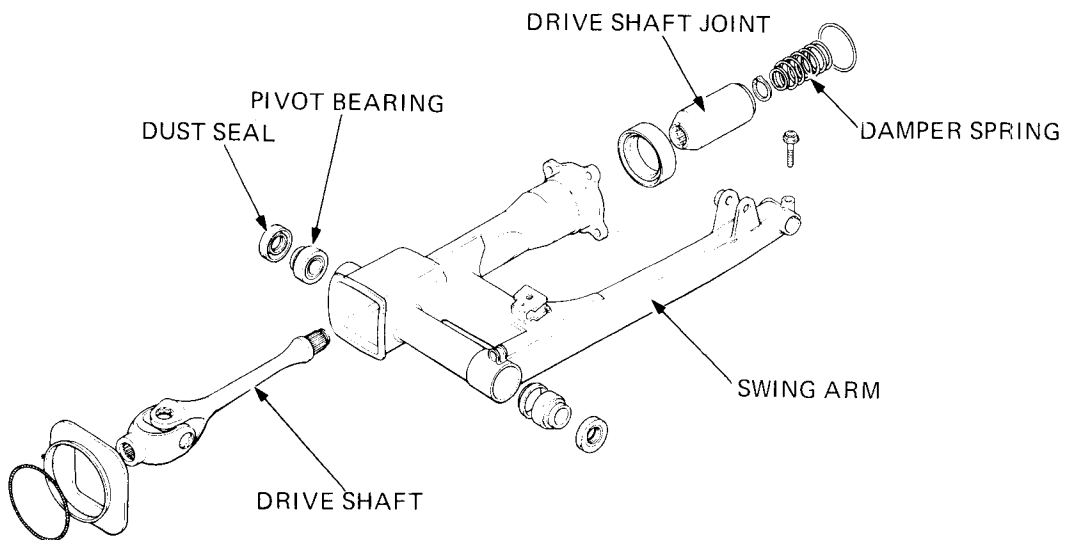
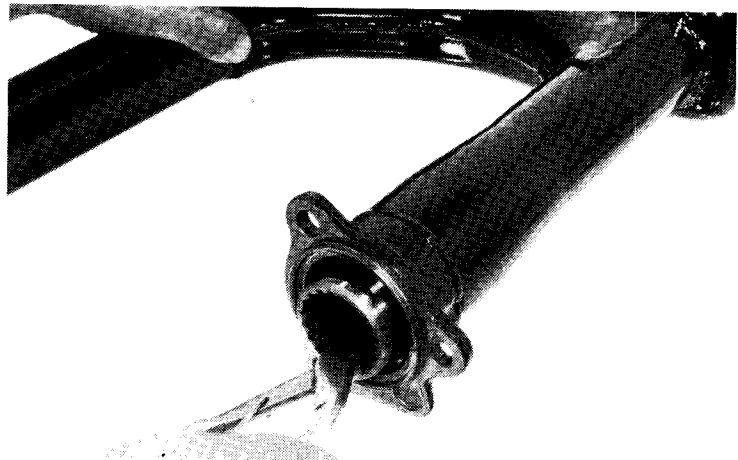
Straighten the lockwasher tab and remove the brake torque link.



LOCK WASHER

Remove the circlip and drive shaft coupling.

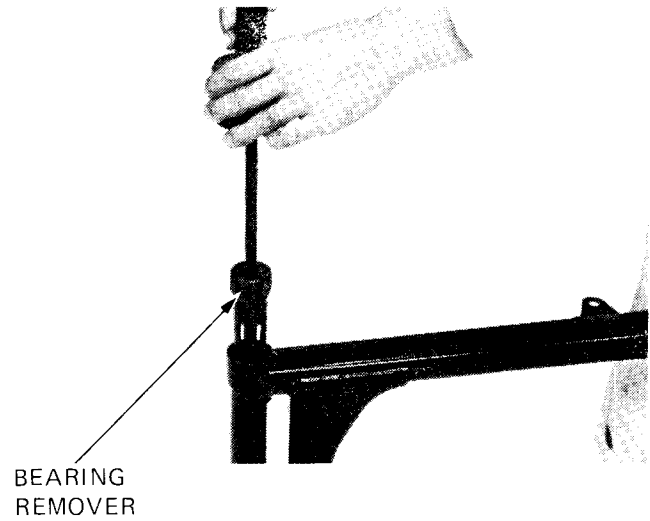
Remove the drive shaft from the swing arm.
Remove the dust seal and pivot bearing.



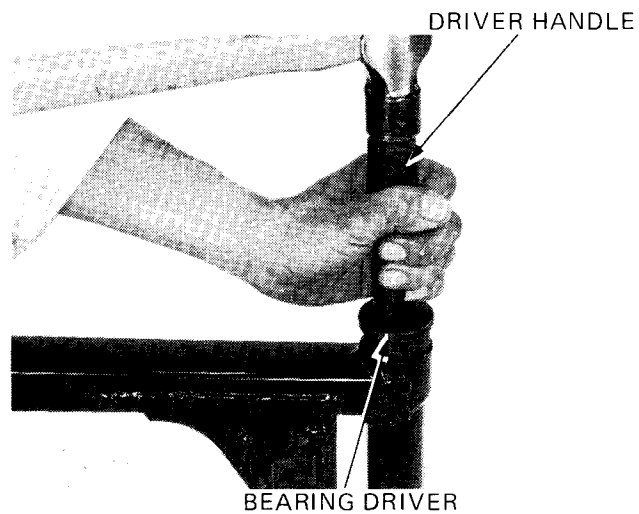


PIVOT BEARING REPLACEMENT

Remove the bearing outer race.



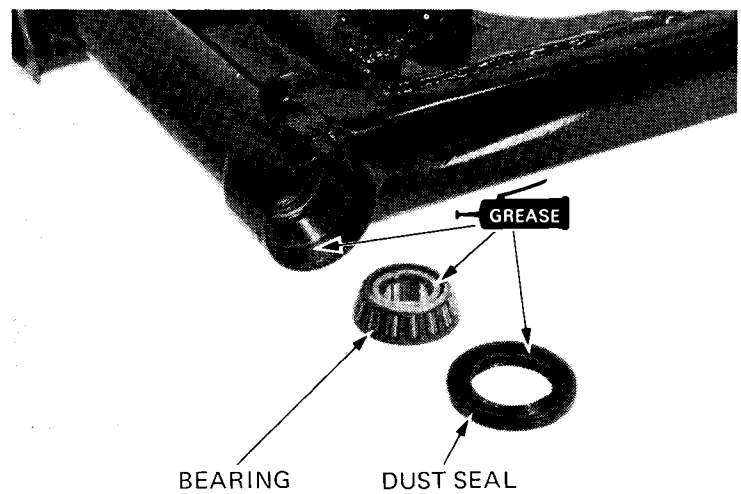
Drive in a new bearing outer race into the swing arm left pivot.



ASSEMBLY

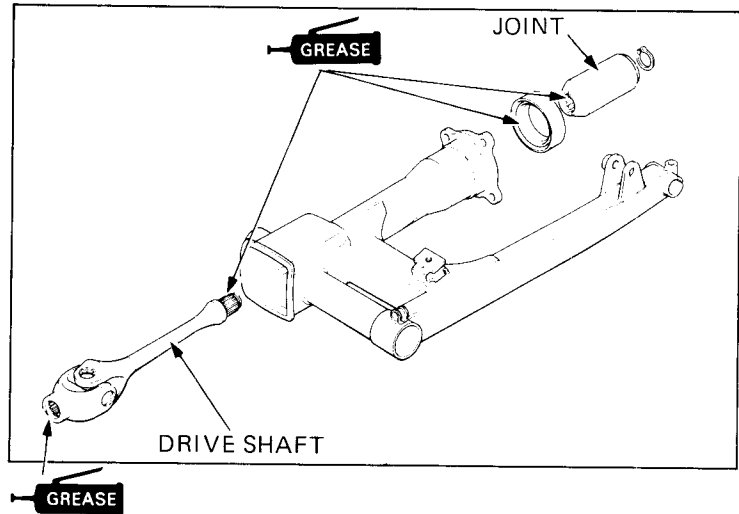
Apply grease to the pivot bearing and inside of dust seal.

Install the bearing and dust seal.

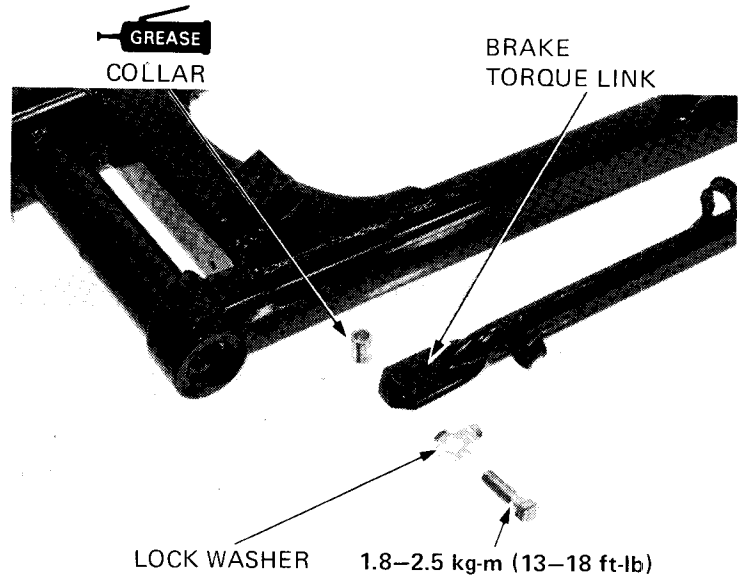




Apply MULTIPURPOSE NLGI No. 2 Grease (MoS2-additive) to the drive shaft, dust seal, joint.
Install the drive shaft, joint and circlip.



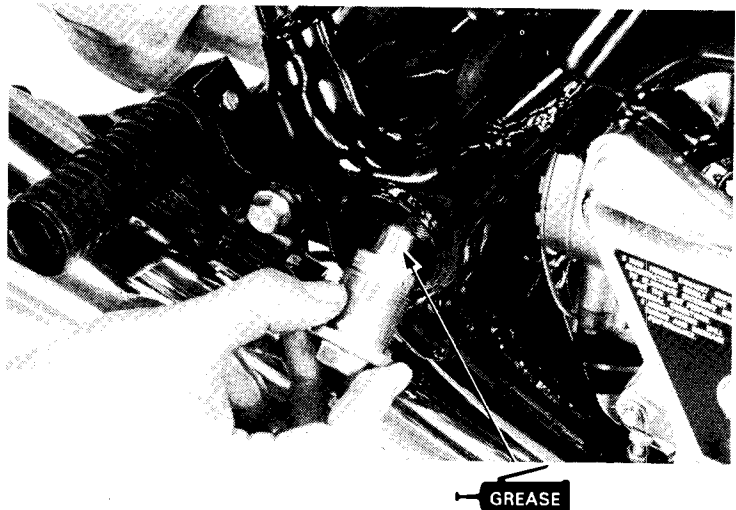
Apply grease to the pivot collar.
Install the brake torque link with a new lockwasher.



INSTALLATION

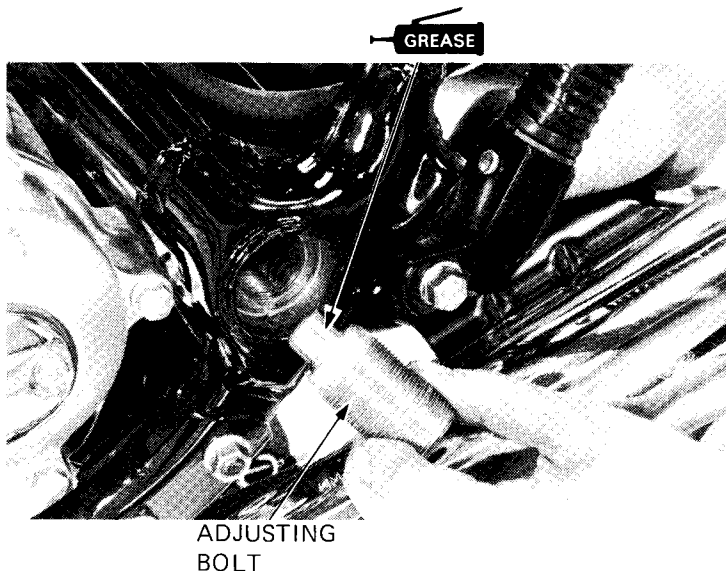
Apply grease to the pivot bolt tip.
Align the universal joint and drive shaft before the swing arm is in position.
Install the swing arm and pivot bolt.

TORQUE: 5.0-7.0 kg-m (36-51 ft-lb)





Apply grease to the pivot adjusting bolt.



Tighten the pivot adjusting bolt.

TORQUE 1.6–2.0 kg-m (12–14 ft-lb)

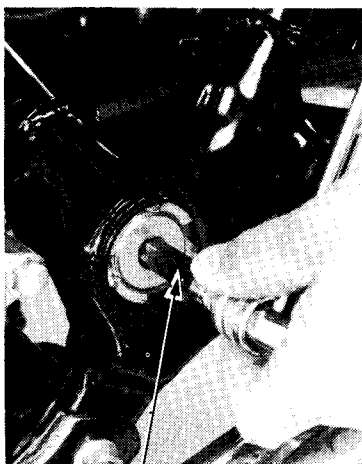
Move the swing arm up and down several times.

Retighten the pivot adjusting bolt to the specified torque.

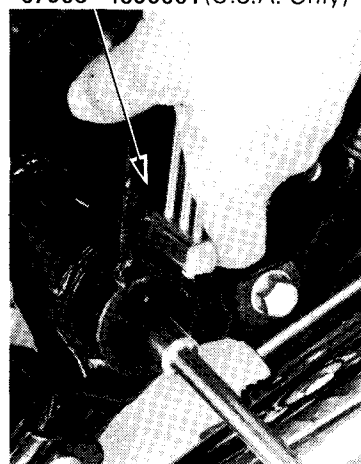
Tighten the locknut while holding the adjusting nut to keep from turning.

TORQUE: 5.0–7.0 kg-m (36–51 ft-lb)

SWINGARM PIVOT
LOCK NUT WRENCH
07908-4690001 (U.S.A. Only)



HEX. SOCKET BIT 10 mm
07917-3710000 OR
COMMERCIALLY AVAILABLE



Install the spring. Lubricate the splines of the drive shaft and pinion shaft with MULTIPURPOSE NLGI No. 2 Grease (MoS2-additive) and engage.

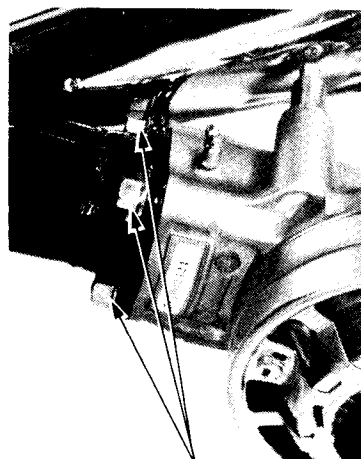
Temporarily install the gear case on the swing arm.

NOTE

Do not tighten the final gear case nuts at this time.
Tighten these nuts after the rear axle shaft is inserted.



GREASE
MULTIPURPOSE
GREASE



FINAL GEAR
CASE ATTACHING NUTS



Apply MULTIPURPOSE NLGI No. 2 Grease (MoS₂-additive) to the inside of the spline shaft, splines of the shaft and driven flange.

Install the rear wheel (page 15-7).

NOTE

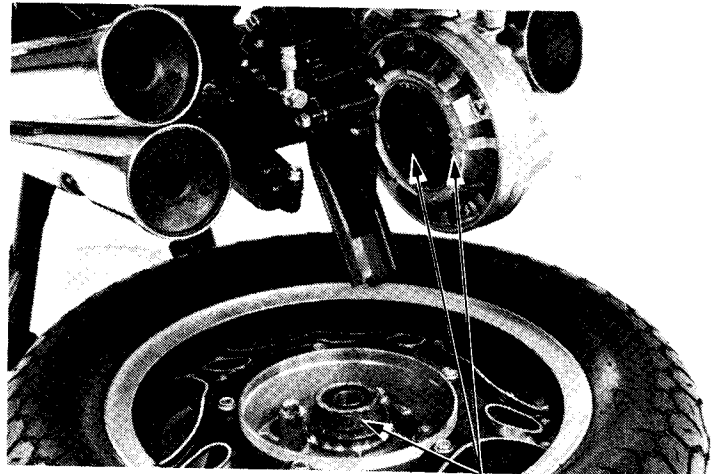
- Do not forget to lubricate.
- Do not tighten the axle at this time.

Tighten the final gear case nuts.

TORQUE: 3.5–4.5 kg-m (25–33 ft-lb)

Tighten the rear axle nut.

TORQUE: 8.0–10.0 kg-m (58–72 ft-lb)



GREASE MULTIPURPOSE
GREASE