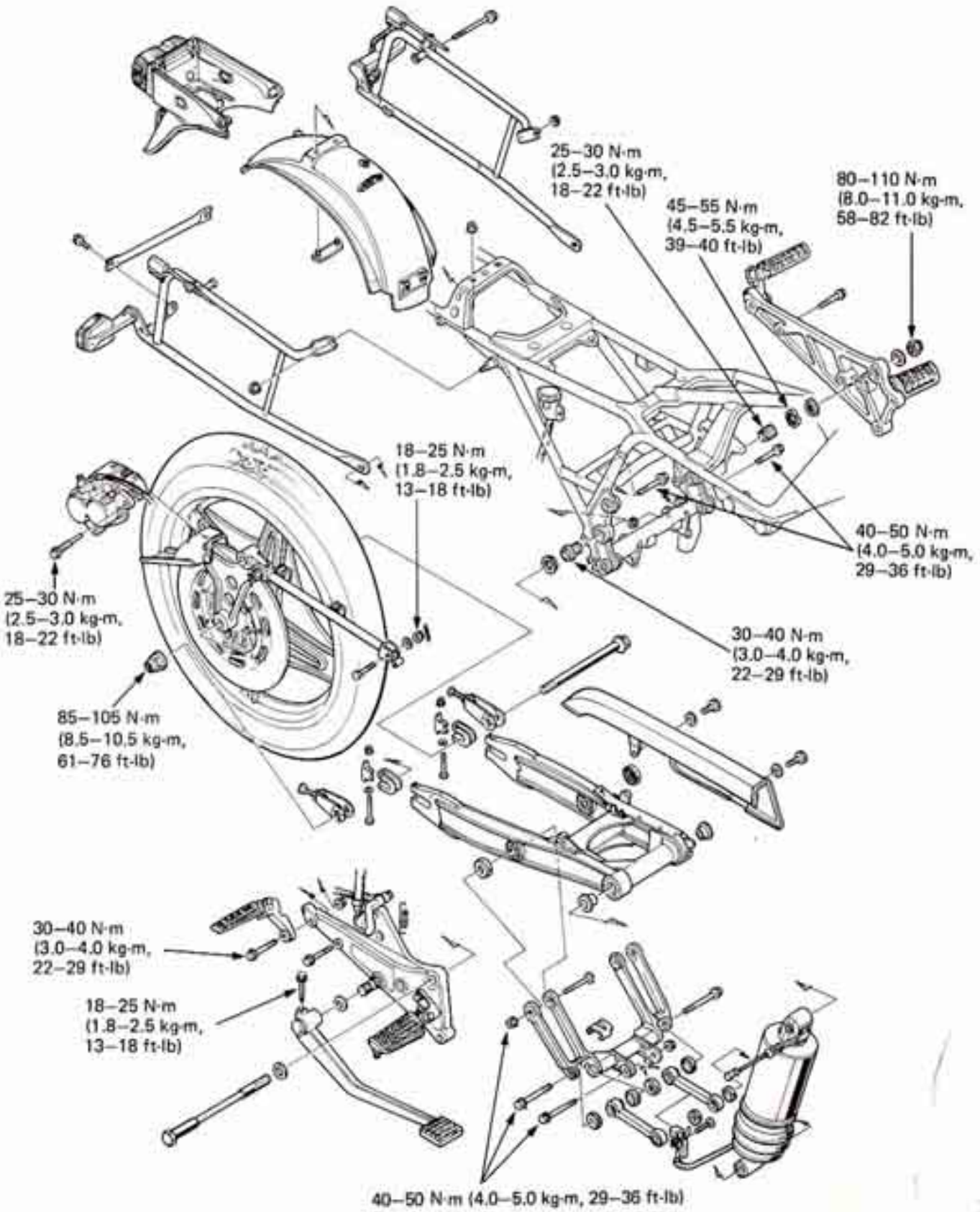


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SERVICE INFORMATION

GENERAL INSTRUCTIONS

- The rear wheel uses a tubeless tire. For tubeless tire repairs, refer to the TUBELESS TIRE MANUAL (Part No. 6141550, H/C 068216 in USA)
- Do not remove rivets, nuts and pins from the rim, spoke plate and hub.
- Never ride on the rim or try to bend the wheel.
- Avoid damaging the aluninum alloy rim.
- The rear suspension uses an air-asisted shock absorber with a damping adjustment. The rear suspension preload acn be changed by adjusting air pressure.
- The rear suspension has a low-pressure warning system (section 18)
- The saddle bags are designed for the CBX'81 model only. Do not install them on any other motorcycle.

TORQUE

Rear axle nut		85–105 N·m (8.5–10.5 kg-m, 62–76 ft-lb)
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)
Swingarm pivot bolt		80–110 N·m (8.0–11.0 kg-m, 58–80 ft-lb)
Rear brake torque link		18– 25 N·m (1.8– 2.5 kg-m, 13–18 ft-lb)
Swingarm pivot collar	Right	30– 40 N·m (3.0– 4.0 kg-m, 22–29 ft-lb)
	Left	25– 30 N·m (2.5–3.0 kg-m, 18–22 ft-lb)
Left pivot piece lock nut		45– 55 N·m (4.5– 5.5 kg-m, 30–40 ft-lb)
Shock absorber	Upper	40– 50 N·m (4.0– 5.0 kg-m, 29–36 ft-lb)
	Lower	40– 50 N·m (4.0– 5.0 kg-m, 29–36 ft-lb)
Suspension arm		40– 50 N·m (4.0– 5.0 kg-m, 29–36 ft-lb)
Suspension rod		40– 50 N·m (4.0– 5.0 kg-m, 29–36 ft-lb)

TOOLS

Common

Driver	07749–0010000 or 07949–6110000
Attachment 62 x 68 mm	07746–0010500 or 07946–3600000
Attachment 52 x 55 mm	07746–0010400 or 07946–3290000
Pilot 20 mm	07746–0040500
Pilot 25 mm	07746–0040600
Retainr wrench body	07610–0010400 or 07910–2830000, 07910–3290000, 07910–3230101
Retainer wrench attachment	07710–0010100

Special

Retainer wrench	07910–4690100 or K3–HBA–08–469 (USA only)
Bearing driver handle	07949–3710000
Attachment	07946–4690100 or 7946–3710300
Attachment	07946–4690200
Lock nut wrench	07908–4690001
Oil seal driver	07965–MA10100
Driver attachment	07965–MA10200
Bearing remover	M9310–277–91774 (USA only)

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SPECIFICATIONS

		STANDARD	SERVICE LIMIT
Rear 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)
Suspension arm bushing I.D.		14.966–14.984 mm (0.5892–0.5926 in)	14.958 mm (0.5889 in)
Suspension arm collar O.D.		15.000–15.052 mm (0.5906–0.5926 in)	15.158 mm (0.5968 in)
Suspension rod bushing I.D.		14.966–14.984 mm (0.5892–0.5899 in)	14.958 mm (0.5889 in)
Suspension rod collar O.D.		15.000–15.052 mm (0.5906–0.5926 in)	15.158 mm (0.5968 in)
Rear shock absorber oil capacity (gross)		618 cc (20.9 oz)	———
Rear shock absorber air pressure		200–400 kPa (2.0–4.0 kg/cm², 28–57 psi)	———

TROUBLESHOOTING

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

Soft Suspension
1. Broken shock absorber spring
2. Shock absorber improperly adjusted

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

Suspension Noise
1. Shock case binding
2. Loose fasteners

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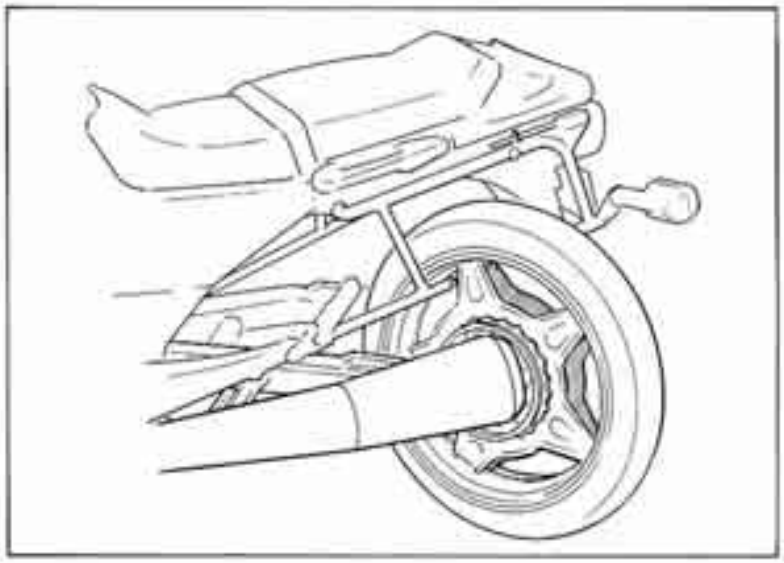
REAR WHEEL

REMOVAL



Place the motorcycle on its center stand.
Remove the left saddle bag and stay rod.
Loosen the drive chain adjuster.
Remove the rear axle nut.
Place a wooden block under the rear wheel.
Remove the rear axle, push the wheel forward and disengage the drive chain.

Remove the rear wheel through the space left by removal of the left saddle bag stay.

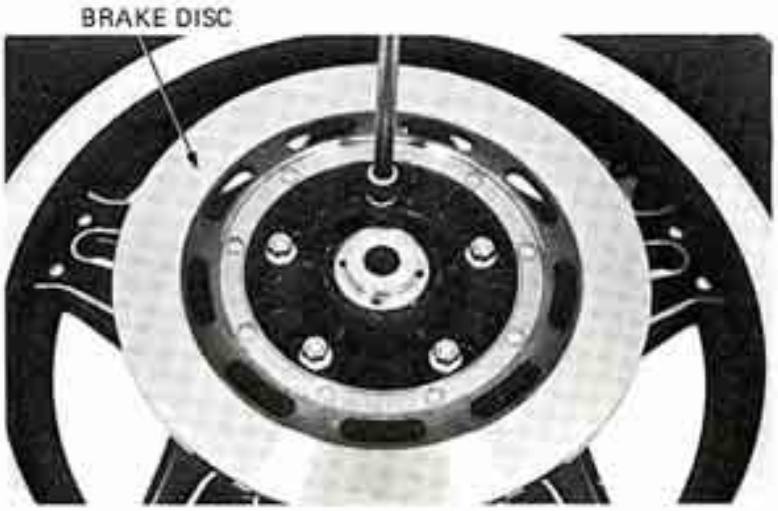


NOTE

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.

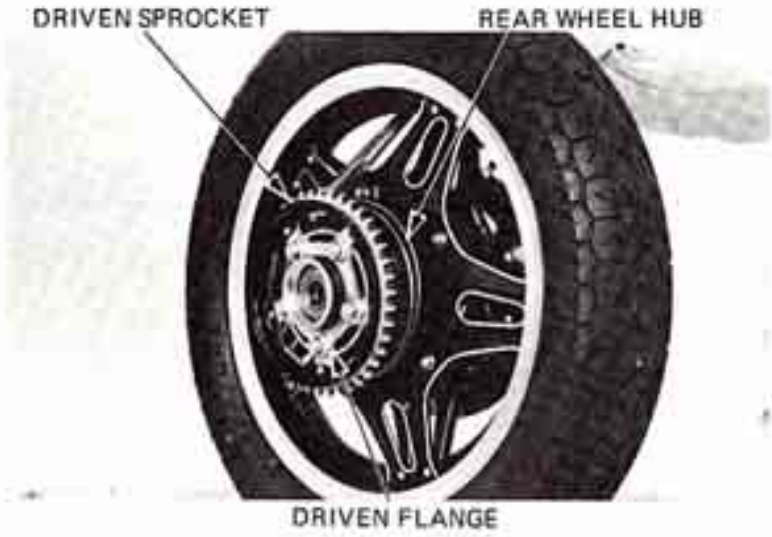
DISASSEMBLY

Remove the rear brake disc.

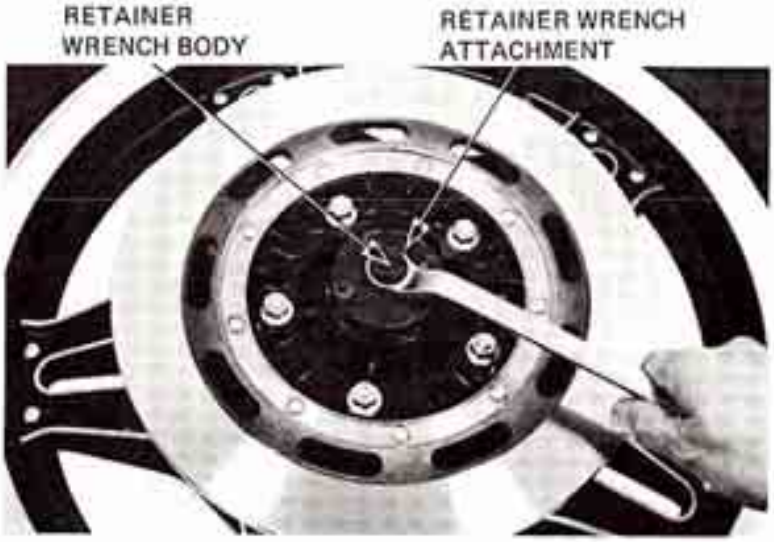


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Loosen the driven sprocket nuts.
Remove the driven flange from the rear wheel hub.
Remove the driven sprocket from the driven flange.



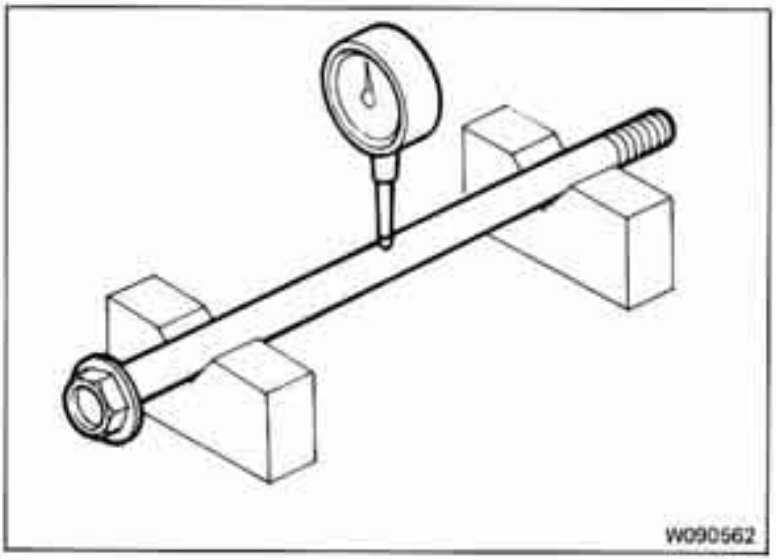
Remove the bearing retainer.



AXLE INSPECTION

Set the axle in V blocks and measure the runout. The actual runout is 1/2 of the total indicator reading.

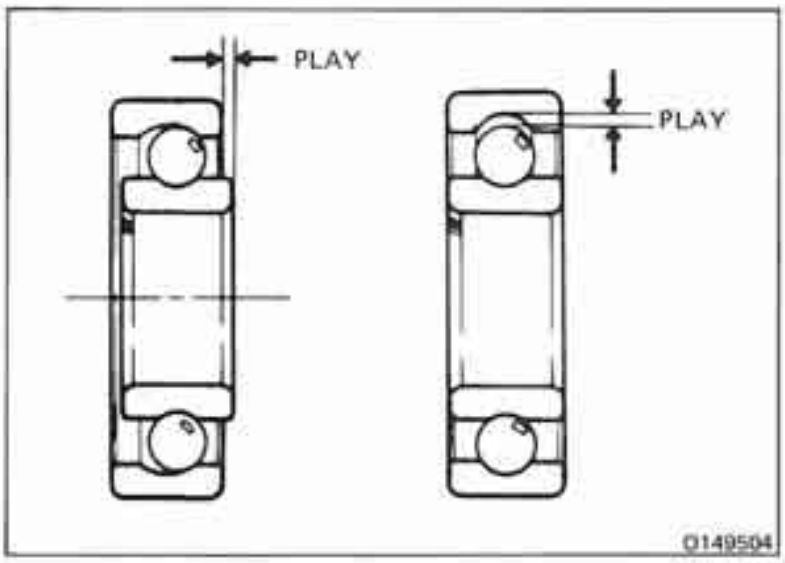
SERVICE LIMIT: 0.2 mm (0.01 in)



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REAR WHEEL BEARING PLAY INSPECTION

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



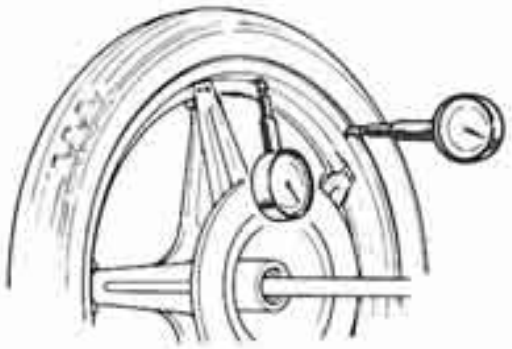
REAR WHEEL RIM RUNOUT INSPECTION

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.

NOTE

The COMSTAR™ WHEEL cannot be repaired and must be replaced with a new one if the service limits are exceeded.

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

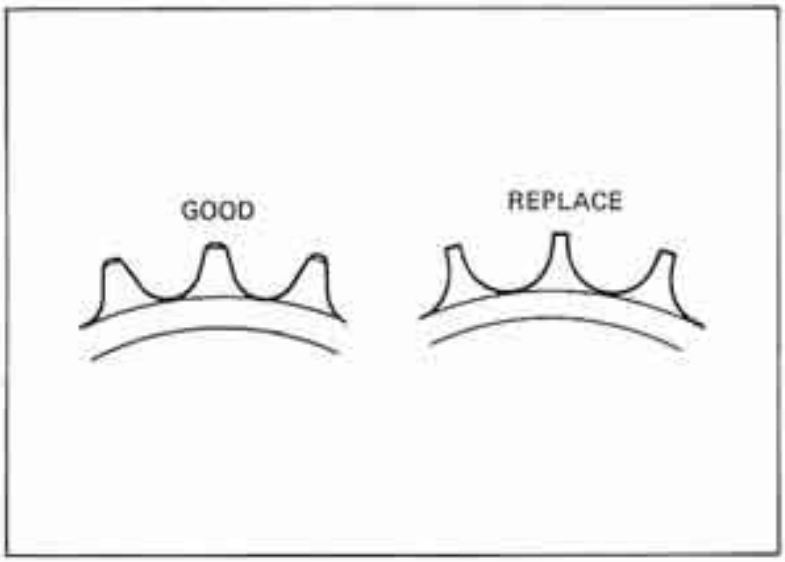


FINAL DRIVEN SPROCKET INSEPCTION

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).



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DAMPER RUBBER INSPECTION

Replace the damper rubbers if they are damaged or deteriorated.



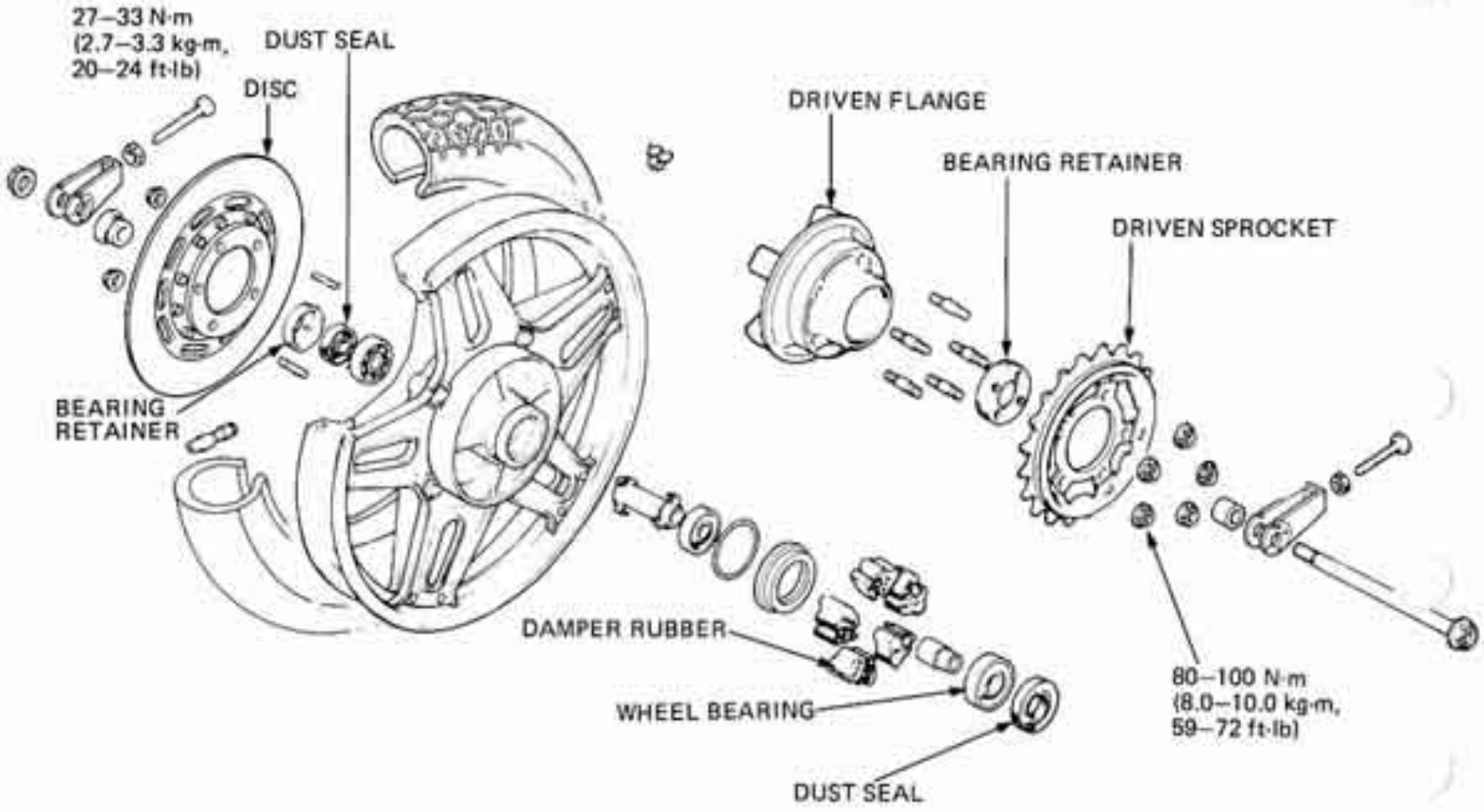
ASSEMBLY

NOTE

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

WARNING

Do not get grease on the brake disc or stopping power will be reduced.



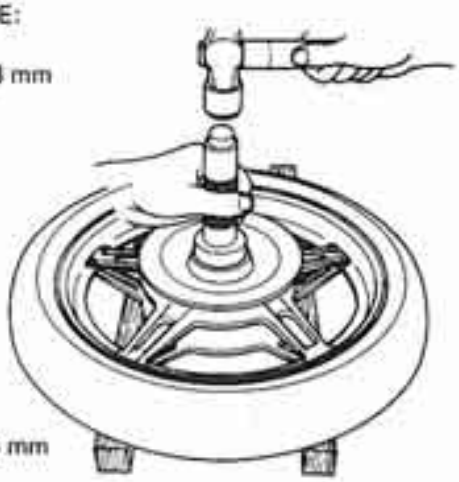
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Pack all bearing cavities with grease.
Press the distance collar into place from the left side.
Drive the right ball bearing first, then the left ball bearing.

NOTE

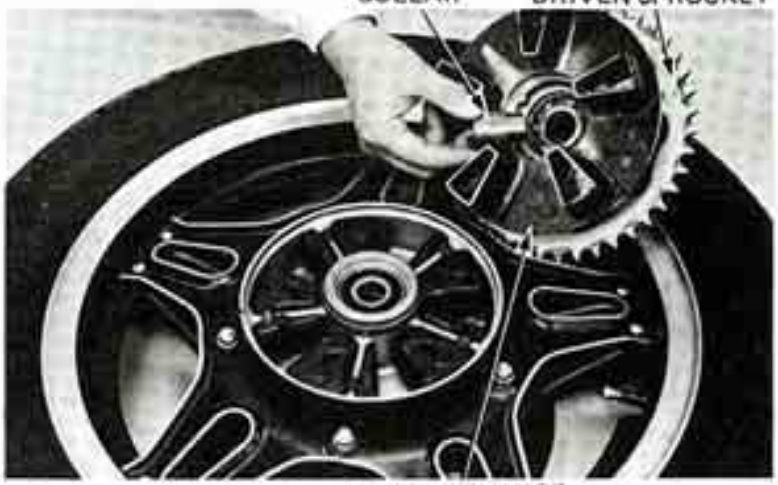
Drive the bearings squarely and install them with the sealed end facing out, making sure they are fully seated.

DRIVEN FLANGE SIDE:
DRIVER
ATTACHMENT 62 x 68 mm
PILOT 25 mm



WHEEL HUB SIDE:
ATTACHMENT 52 x 55 mm
PILOT 20 mm

Install the driven sprocket onto the driven flange.
Install the driven flange collar into the driven flange.
Install the driven flange onto the rear wheel hub.



NOTE

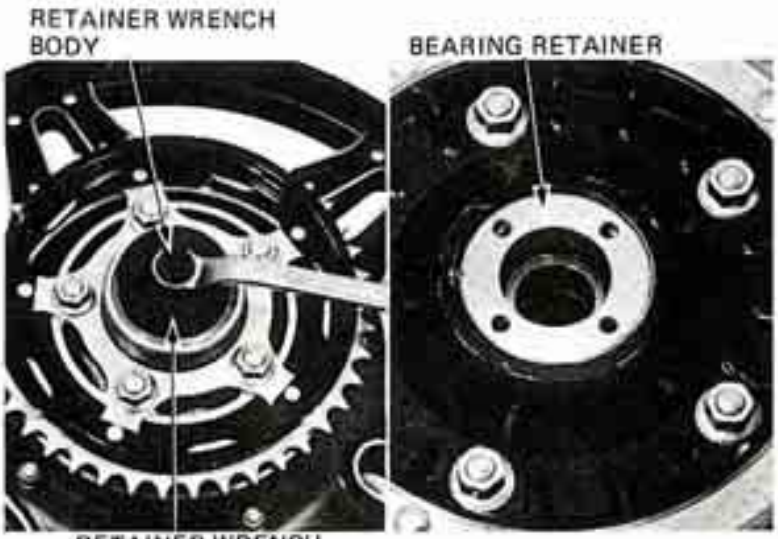
Check the condition of the bearing retainer.
If the threads are damaged, the retainer should be replaced.

Install the bearing retainer with the same tool that was used to remove it. Peen it to the hub.
Install the rear brake disc and nuts.

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.
Tighten the drive sprocket nuts.

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



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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.

Adjust the drive chain slack (Page 3-16).

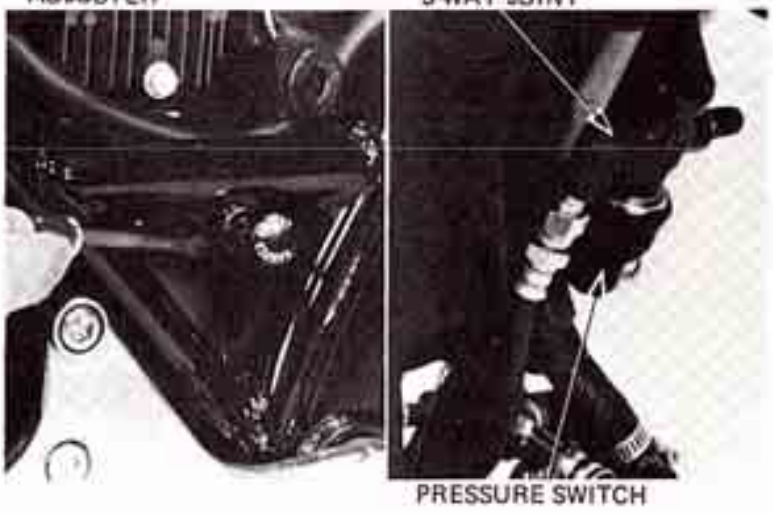
TORQUE:
REAR AXLE NUT
85–105 N·m (8.5–10.5 kg-m, 62–76 ft-lb)



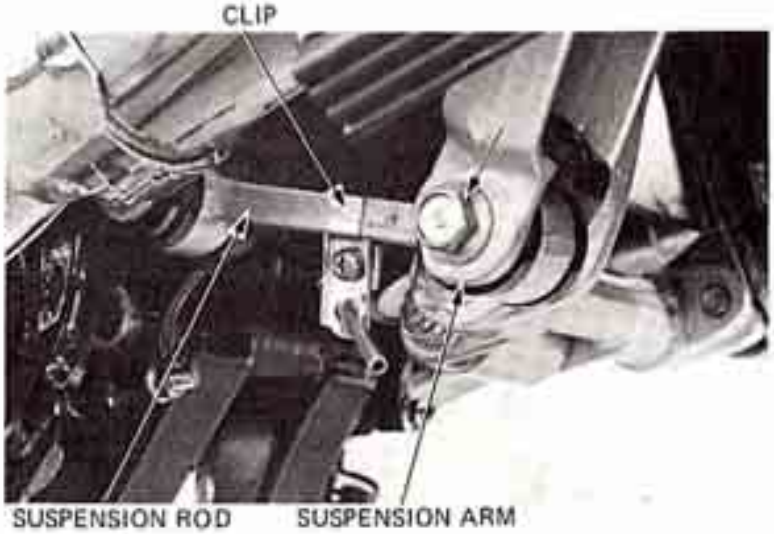
SHOCK ABSOBER

REMOVAL

Place the motorcycle on it center stand.
Remove the left and right side covers.
Disengage the damper adjuster holder from the frame.
Disconnect the air prssure switch wire.
Remove the 3-way joint.



Remove the boot breather tube clip.
Place a wooden block under the rear wheel.
Remove the rear shock absorber mounting bolt and suspension rod bolts.



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Remove the crankcase breather storage tank mounting bolt.
Remove the upper shock mount bolt and rear shock absorber.


STORAGE TANK

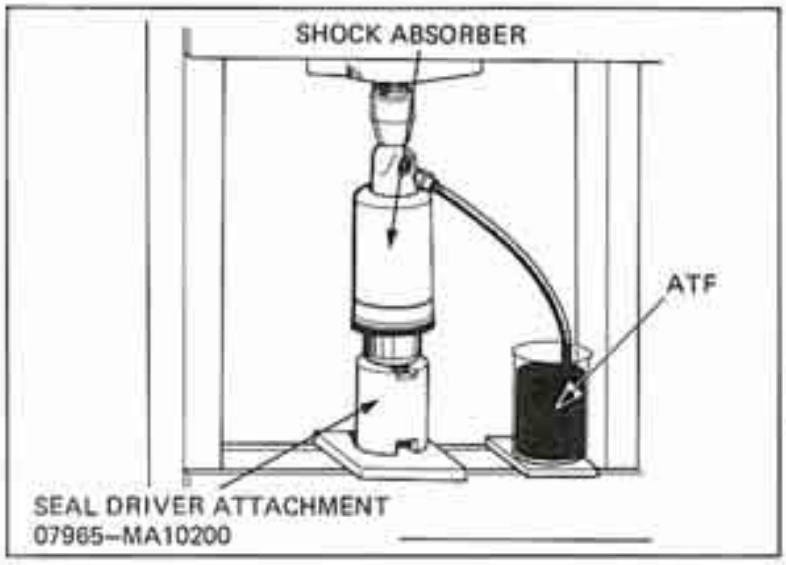
DISASSEMBLY

Oil Seal Replacement

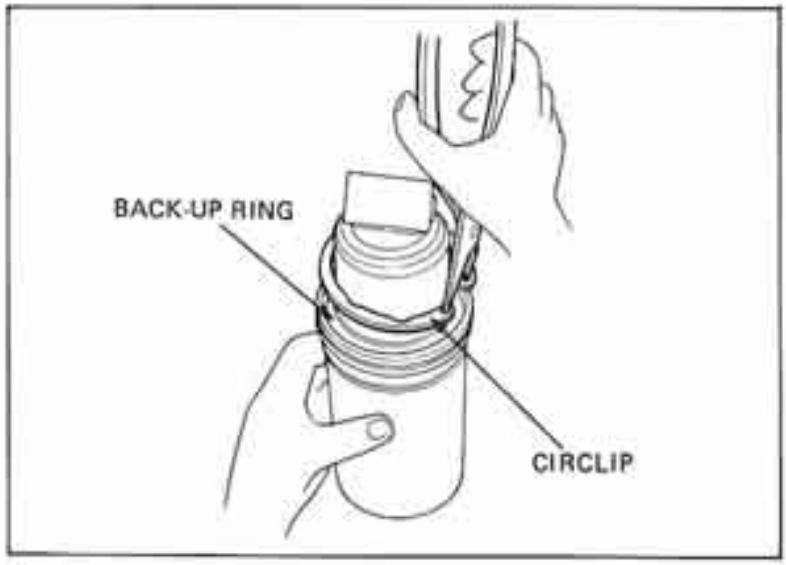
Remove the boot band and adjusting rod.
Disconnect the air hose from the 3-way joint.
Prepare about 300 cm^3 (10.1 US ozs, 8.4 Imp ozs) of ATF in a clean container.
Set the shock absorber into the hydraulic press with the oil seal driver attachment positioned as shown.
Pump the absorber several times until the damper is filled with ATF (stroke about 20 mm/0.8 in).

NOTE

Set the shock absorber noting the seal driver attachment direction.



Reconnect the air hose to the 3-way joint.
Remove the shock absorber from the hydraulic press.
Remove the circlip and back-up ring.



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Wrap a shop towel around the oil seal area and place the seal driver over the oil seal.

Press the oil seal out by compressing the shock absorber with the oil seal driver attachment in the hydraulic press.

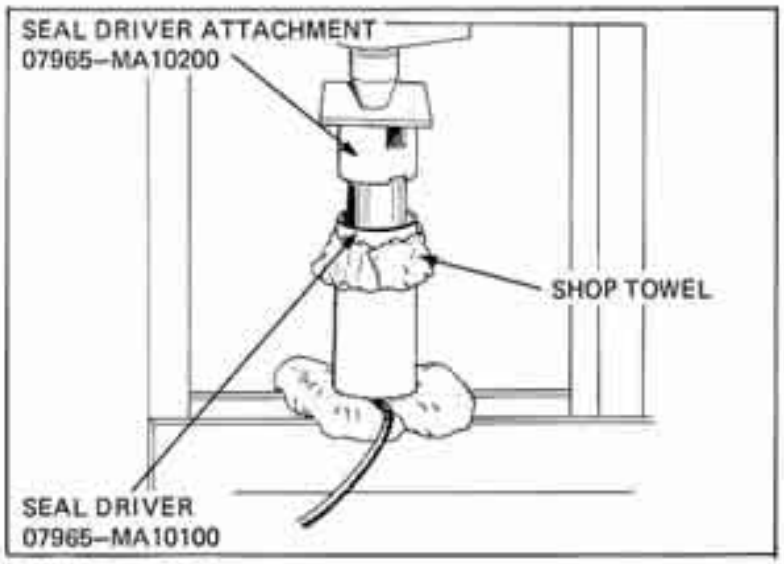
NOTE

Use the oil seal driver as a guide to keep the oil seal from tilting.

Remove the shock from the press.
Remove the guide bushing and check for wear or damage.

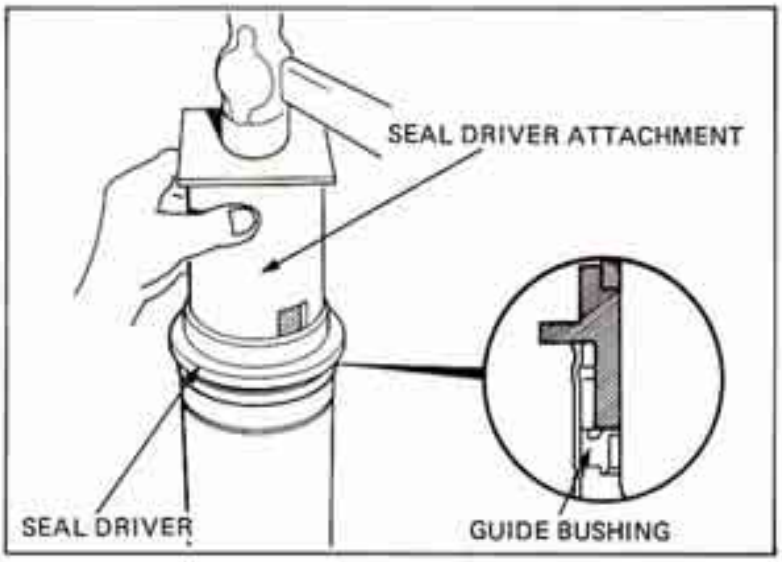
CAUTION

Do not reuse ATF.



Disconnect the air hose from the 3-way joint.
Drive the guide bushing in.

Spill as little ATF as possible to prevent air from entering the shock.
Air in the shock will cause the shock damping to be too soft.



Wrap a piece of tape around the groove at the end of the shock absorber.
Dip the oil seal in ATF and place it on the damper.

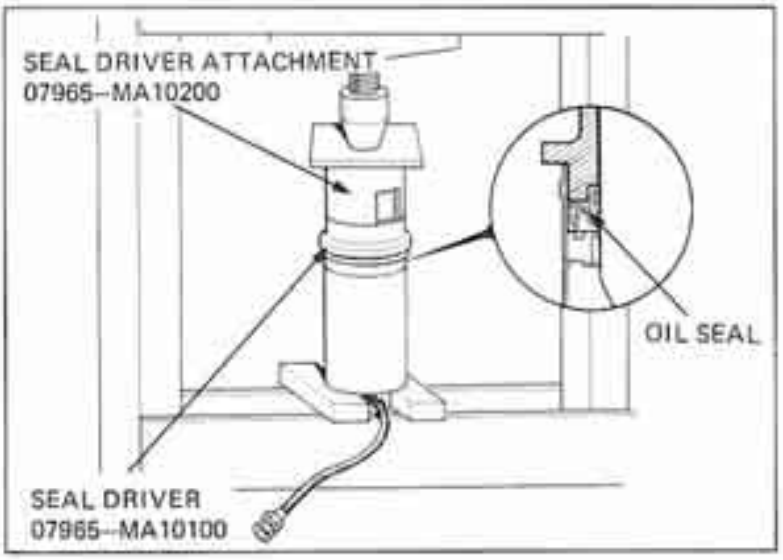
CAUTION

Be careful not to damage the oil seal during installation.



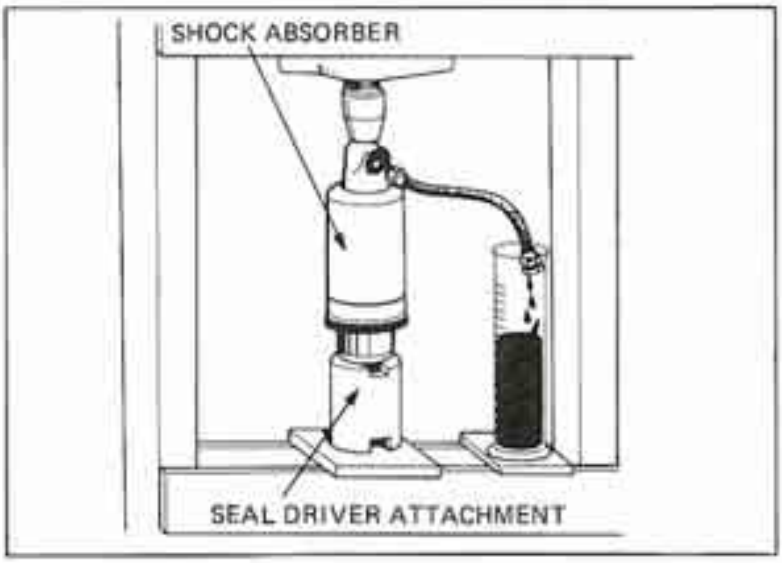
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Press the oil seal in the shock absorber with a hydraulic press until the oil seal driver stops at the edge of the outer case.

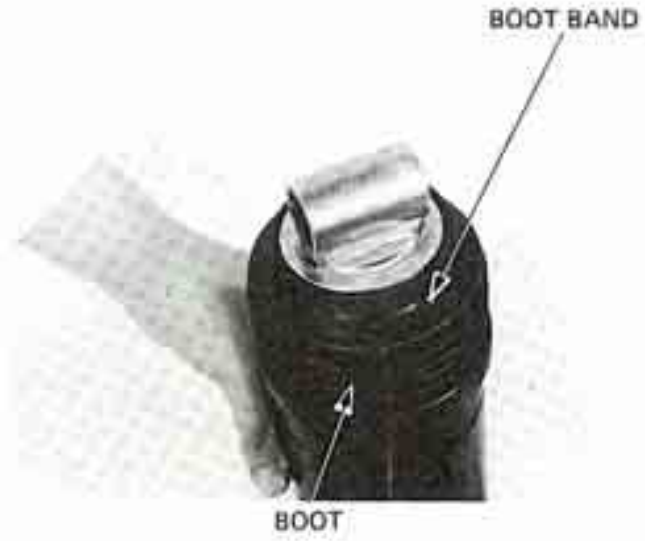


Install the back-up ring and circlip.
Fill the damper with ATF using the same procedure as for oil seal removal.
Be sure no air remains in the shock.
Compress the shock absorber slowly about 33 mm (1.3 in) to drain 210 cm^3 (7.1 US ozs, 5.9 Im ozs) of ATF from the shock absorber.

ATF that remains 618 cm^3
(20.9 U.S. 02, 17.41 m ozs)
Air in air chamber: 210 cc (12.81 cu. in)



Install the boot and boot band.



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Install the damper adjuster by aligning the groove of the adjuster guide with the center tooth of the adjuster.
Apply a locking agent to the screw thread and tighten then.

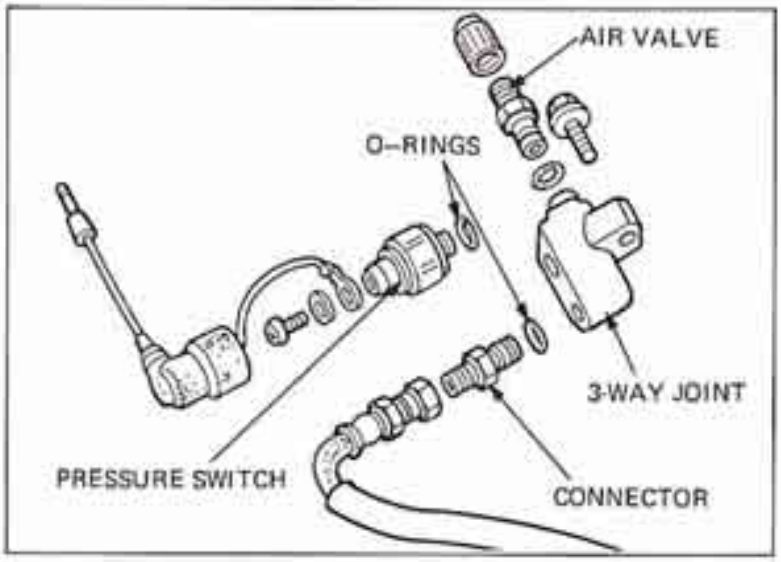


3-WAY JOINT DISASSEMBLY/ ASSEMBLY

Apply grease to new O-rings and install them onto the connector, air valve and pressure switch.
Install the connector, pressure switch and air valve.

TORQUE VALUES:

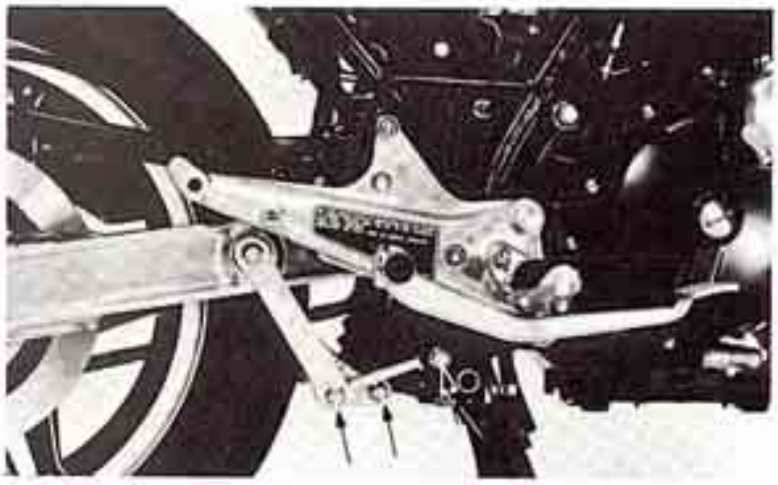
PRESSURE SWITCH:	**8–12 N·m (0.8–1.2 kg-m, 6–9 lb-ft)**
CONNECTOR:	**4–7 N·m (0.4–0.7 kg-m, 3–5 ft-lb)**
AIR VALVE:	**4–7 N·m (0.4–0.7 kg-m, 3–5 ft-lb)**
AIR HOSE:	**15–20 N·m (1.5–2.0 kg-m, 11–14 ft-lb)**



INSTALLATION

Installation is the reverse order of removal.

TORQUE:
SHOCK ABSORBER MOUNTING BOLTS:
40–50 N·m (4.0–5.0 kg-m, 29–36 ft-lb)
SUSPENSION ROD BOLTS:
40–50 N·m (4.0–5.0 kg-m, 29–36 ft-lb)

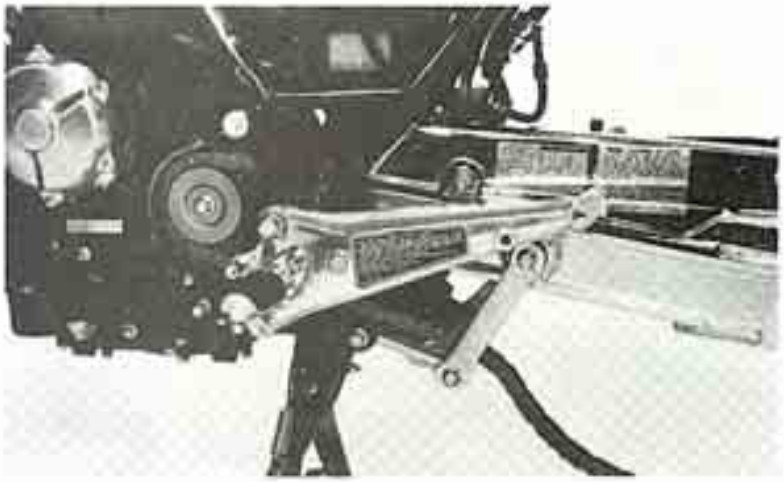


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SWINGARM

REMOVAL

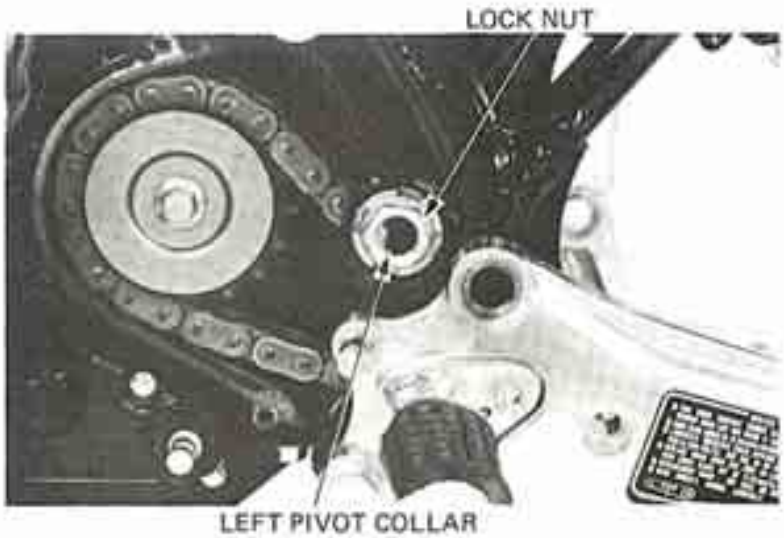
Remove the following:
Left and right mufflers.
Left and right foot pegs
Gearshift pedal.
Rear brake master cylinder and pedal.
Rear wheel and chain cover.
Rear shock absorber and saddle bag stays.



Loosen the rear engine hanger lower bolt, and remove the pivot cap.
Move the footpeg brackets and remove the pivot caps.



Move the left footpeg bracket out of the way and remove the pivot cap.
Remove the lock nut and pivot collar.



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Remove the right pivot collar.
Remove the swingarm.


RIGHT PIVOT COLLAR

DISASSEMBLY

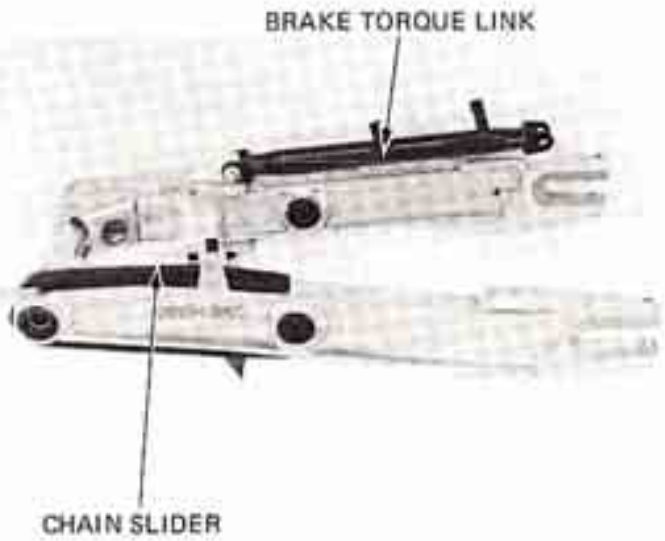
Remove the suspension arm and rods.
Remove the brake torque link.
Remove the chain slider.
Remove the dust seals and collars.
Measure the suspension arm bushing I.D. and collar O.D.

STANDARD:

Bushing	**I.D.: 14.966–14.984 mm (0.5892–0.5899 in)**
Collar	**O.D.: 15.000–15.052 mm (0.5906–0.5926 in)**

SERVICE LIMIT:

Bushing	**I.D.: 14.958 mm (0.5889 in)**
Collar	**O.D.: 15.158 mm (0.5968 in)**



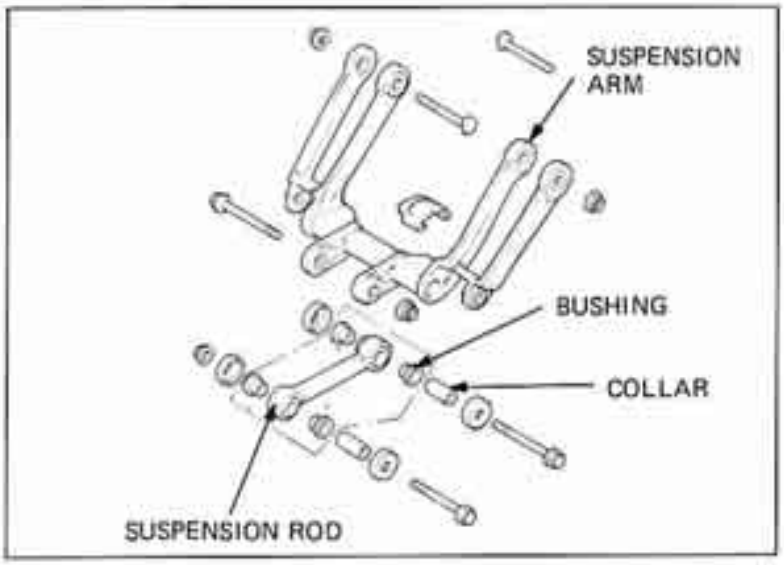
Remove the dust seals from the suspension rods.
Inspect the collar and bushing for wear or damage.
Measure the bushing I.D. and collar O.D.

STANDARD:

Bushing	**I.D.: 14.966–14.984 mm (0.5892–0.5899 in)**
Collar	**O.D.: 15.000–15.052 mm (0.5906–0.5926 in)**

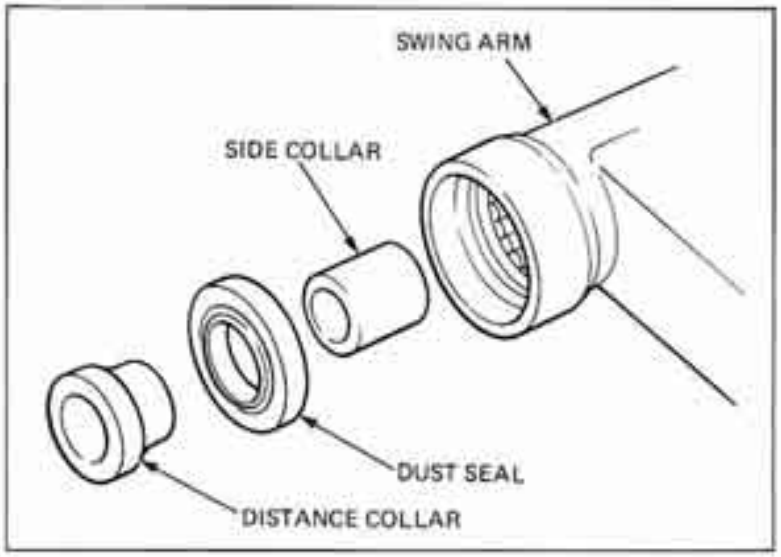
SERVICE LIMIT:

Bushing	**I.D.: 14.958 mm (0.5889 in)**
Collar	**O.D.: 15.158 mm (0.5968 in)**



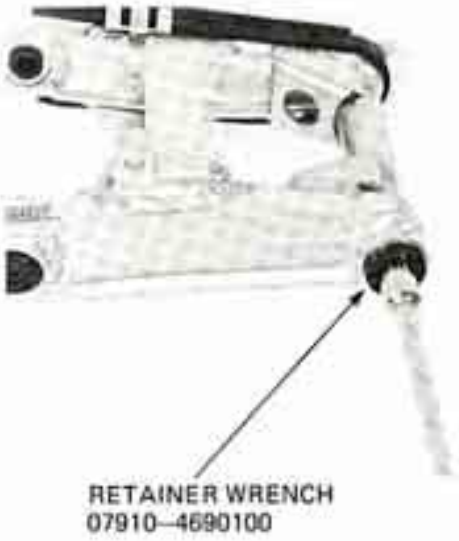
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Remove the distance collar.
Remove the left dust seal and side collar.



Remove the bearing retainer.

Remove the dust seal from the bearing retainer if necessary.



Drive out the center collar and right ball bearing as a set.

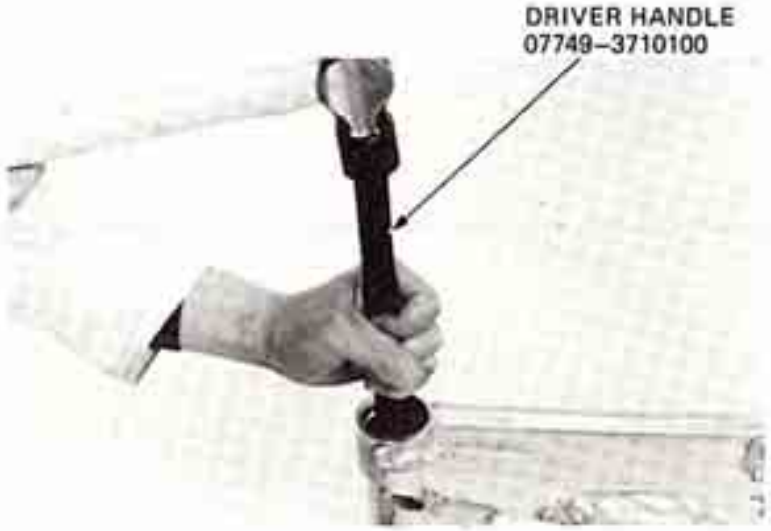


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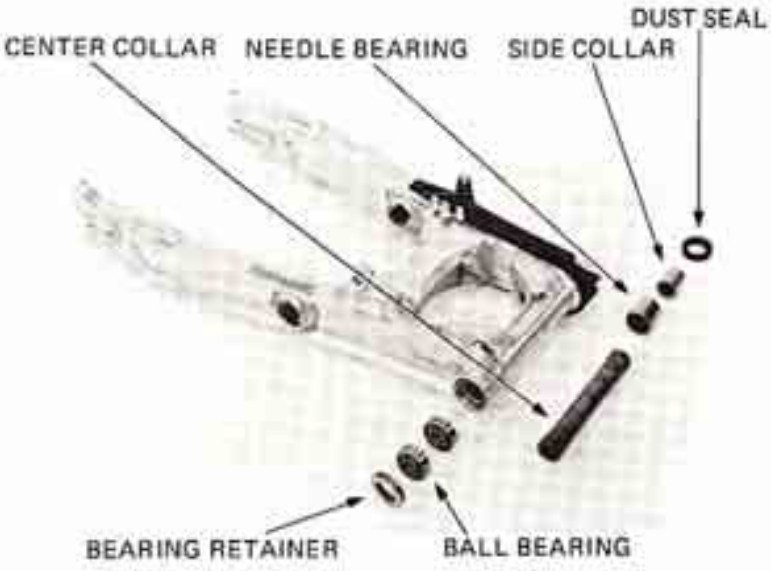
Inspect the needle bearing. Remove the needle bearing if necessary use bearing remover M9310–277–91774 (USA only).
Install the center collar.
Drive out the center collar and needle bearing.

NOTE

Replace the needle bearing with a new one whenever disassembled.



Clean all the disassembled parts and check for wear or damage. Parts which show excessive wear or damage must be replaced.

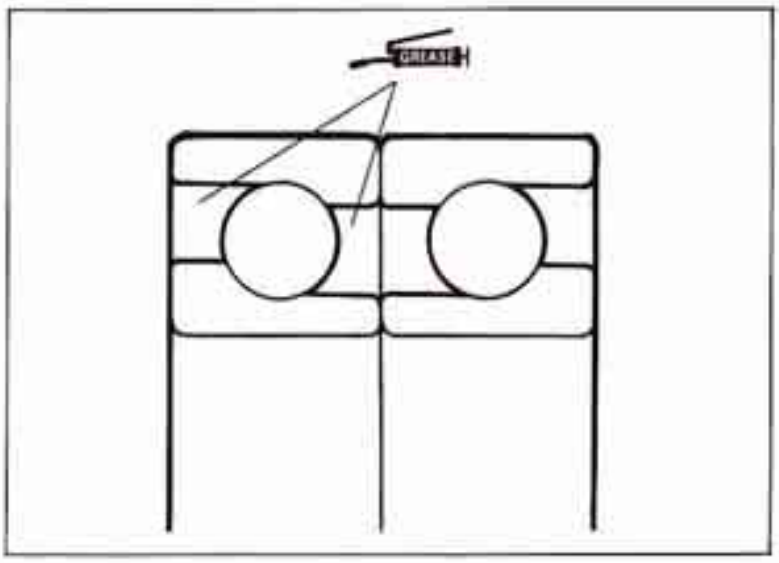


ASSEMBLY

Clean all the disassembled parts.
Pack the right bearing cavities with MULTIPURPOSE NLGI No. 2 Grease (MoS2-additive).

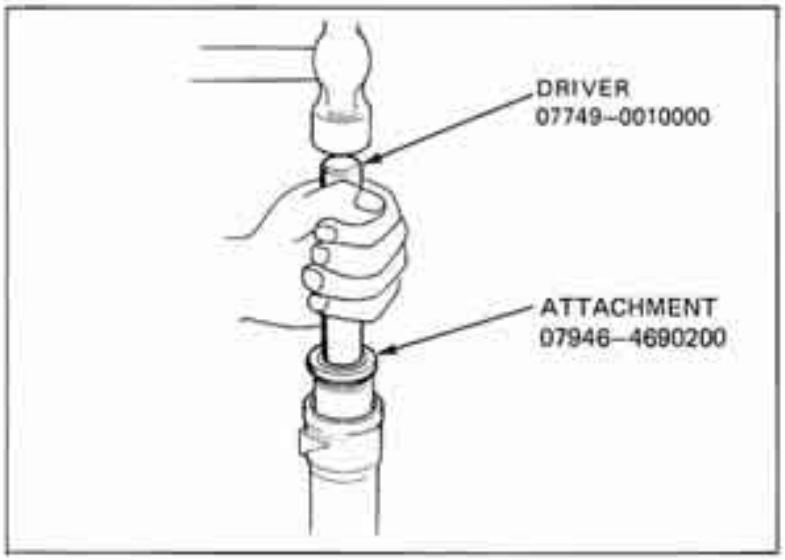
NOTE

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.



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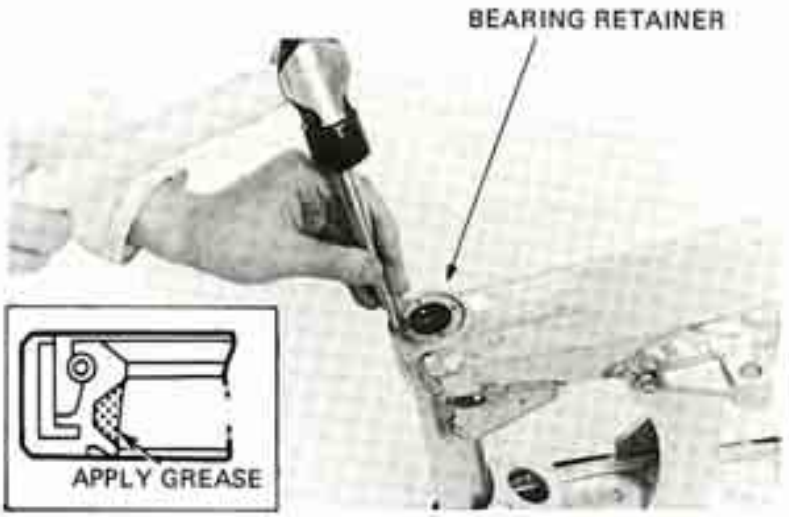
Drive one ball bearing into place with the numbers facing toward the swing arm center.
Install the second ball bearing with its numbers facing out.



Install the dust seal onto the retainer and apply MULTIPURPOSE NLGI No. 2 grease (MoS_2-additive) to the inside lip.
Tighten the retainer.

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

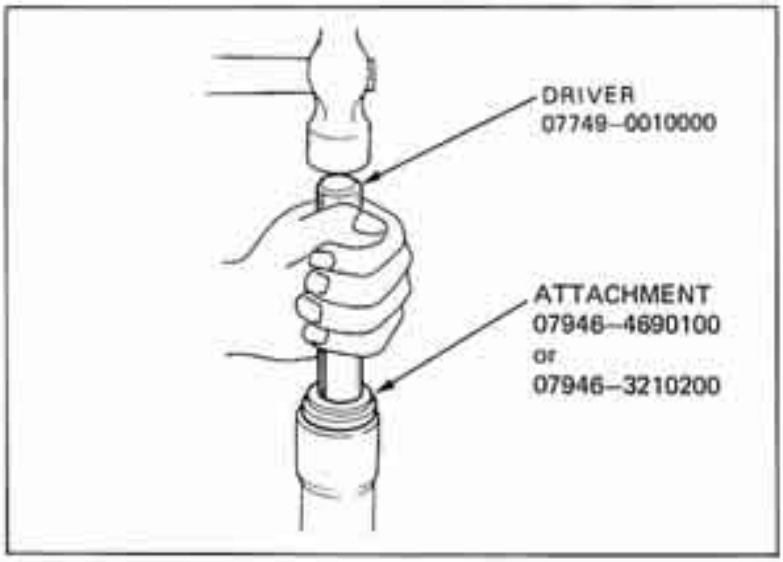
Peen the retainer over the swing arm using a hammer and drift.



NOTE

Use lithium-based MULTIPURPOSE grease with MoS_2-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.

Apply MULTIPURPOSE NLGI No. 2 grease (MoS_2-additive) to the center collar and slide it into place.
Pack the needle bearing with grease.
Drive the needle bearing into place with its numbers facing out.

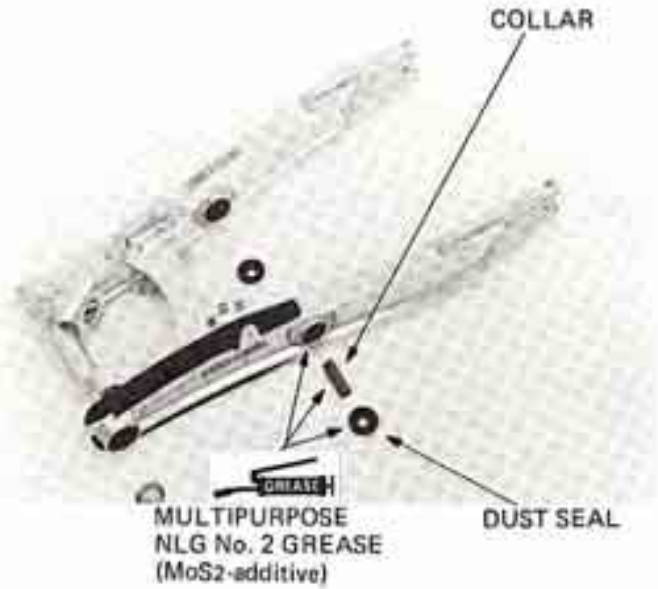


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Apply MULTIPURPOSE NLGI No.2 grease (MoS2-additive) to the suspension arm collars and dust seals and install them onto the swingarm.

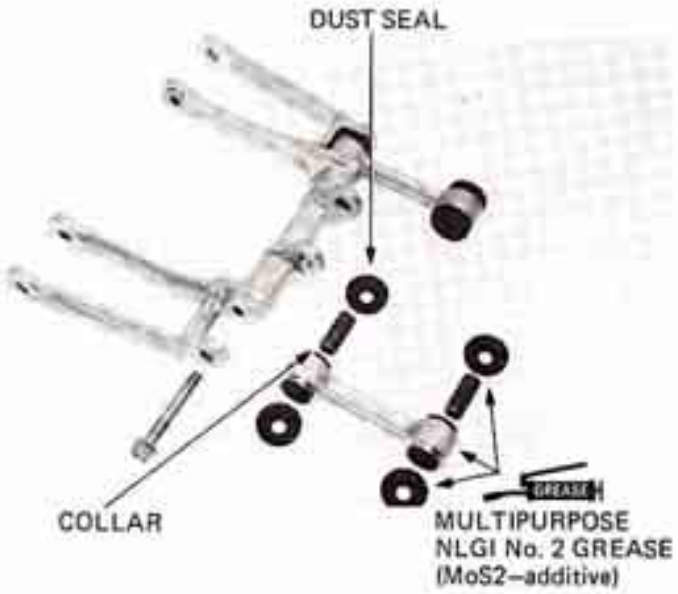
NOTE

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.



Apply MULTIPURPOSE NLGI No.2 grease (MoS2-additive) to the suspension rod collar and dust seal.
Install the collars and dust seals.
Tighten the suspension rod pivot bolts.

TORQUE:
40–50 N·m (4.0–5.0 kg-m, 29–36 ft-lb)

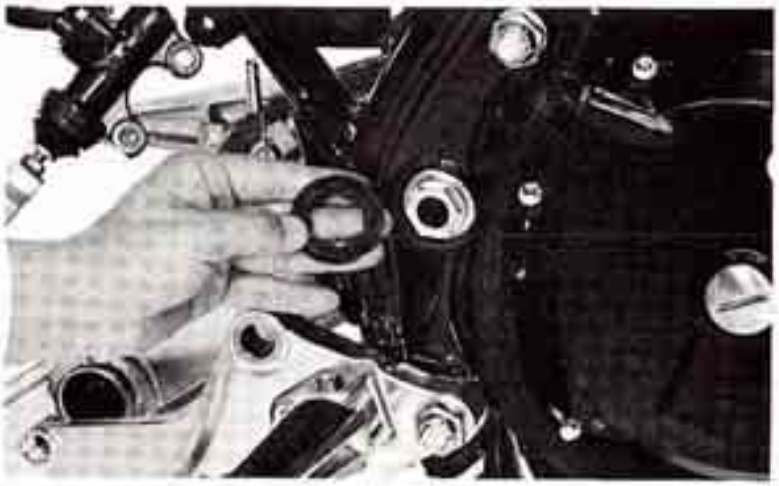


INSTALLATION

Tighten the right pivot collar.

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

Install the pivot cap and right foot peg bracket.

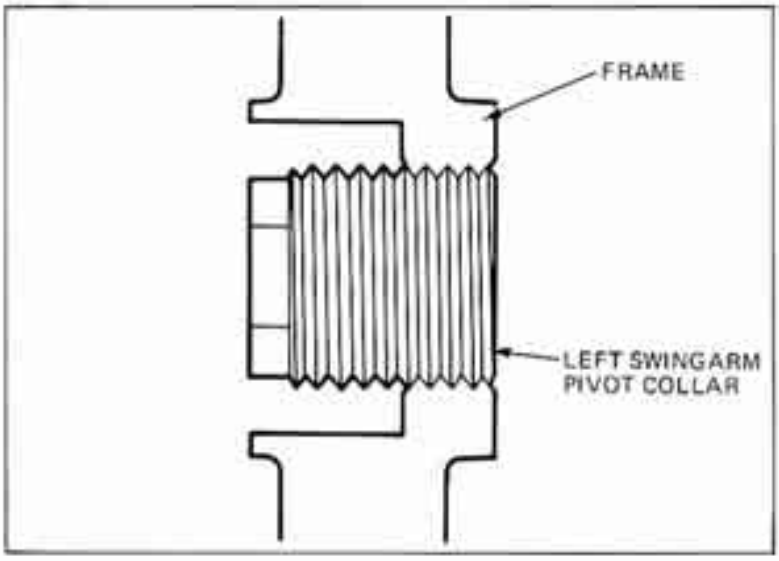


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Install the distance collar onto the swingarm.
Install the left pivot collar loosely.

NOTE

Make sure that the end of the pivot collar does not extend past the frame.



Install the swingarm and insert the pivot bolt to hold the swingarm.
Tighten the left pivot collar.

TORQUE:
25–30 N·m (2.5–3.0 kg·m, 18–22 ft·lb)



Install the suspension rodsand arm assembly to the swing arm.

TORQUE:
40–50 N·m (4.0–5.0 kg·m, 29–36 ft·lb)



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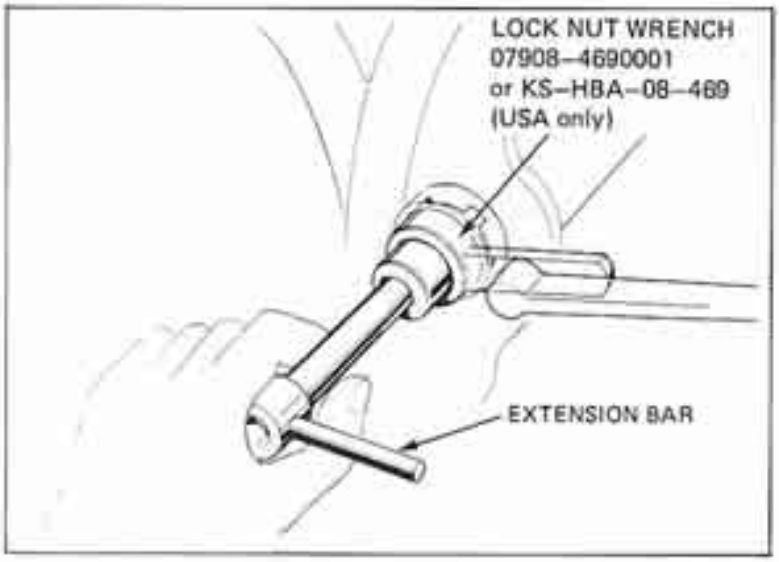
Hold the pivot collar and tighten the lock nut.

TORQUE:
45–55N·m (4.5–5.5 kg-m, 33–40 ft·lb)

Install the pivot cap and left footpeg bracket.
Tighten the swingarm pivot bolt.

TORQUE:
70–80N·m (7.0–8.0 kg-m, 51–58 ft·lb)

Install the removed parts in the reverse order of removal.



REAR FENDER REMOVAL

Remove the following.
Left and right side covers.
The seat and the rear cowl.
The cowl protecter from the rear cowl.



Remove the left and right saddle bags.
Disconnect the rear turn signal wires.
Remove the rear hand-rail.
Remove the saddle bag stays.

Disconnect the taillight wire connecters.
Remove the rear fender A and B by removing the three connecters of the spark unit.

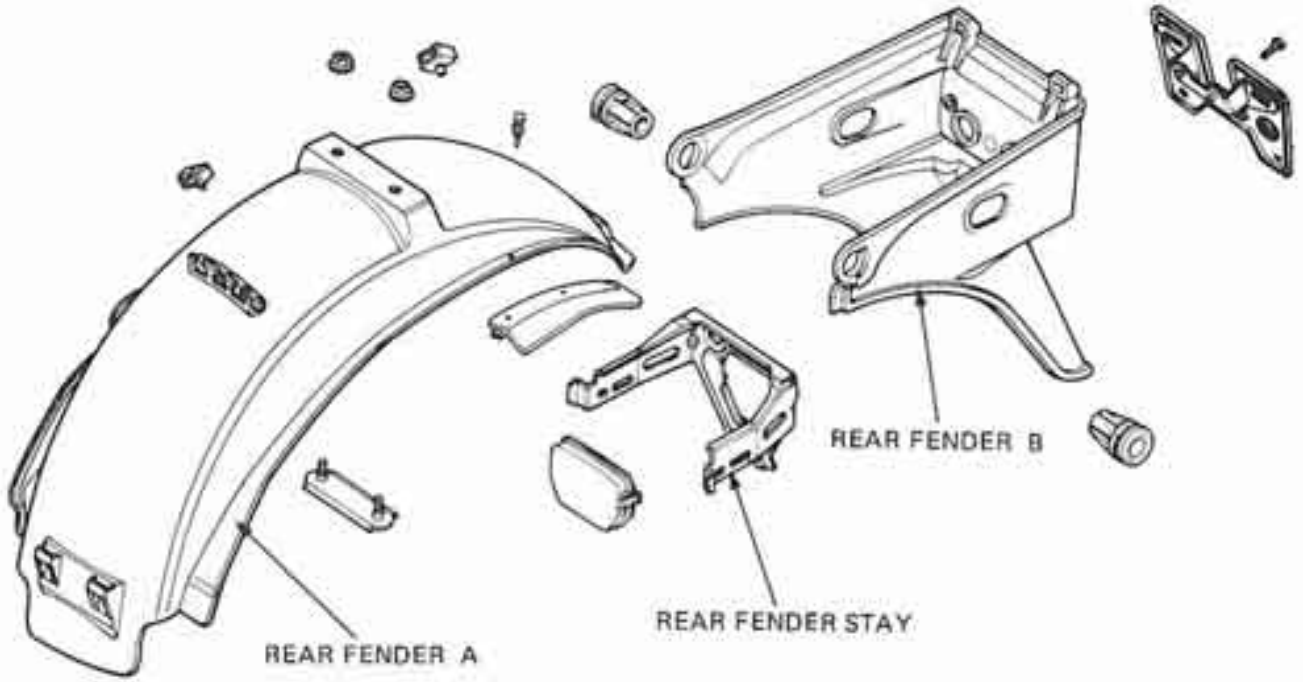
Remove the taillight from the rear fender A.
Remove the rear fender stay.



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INSTALLATION

Assemble and install the rear fender in the reverse order of removal.



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