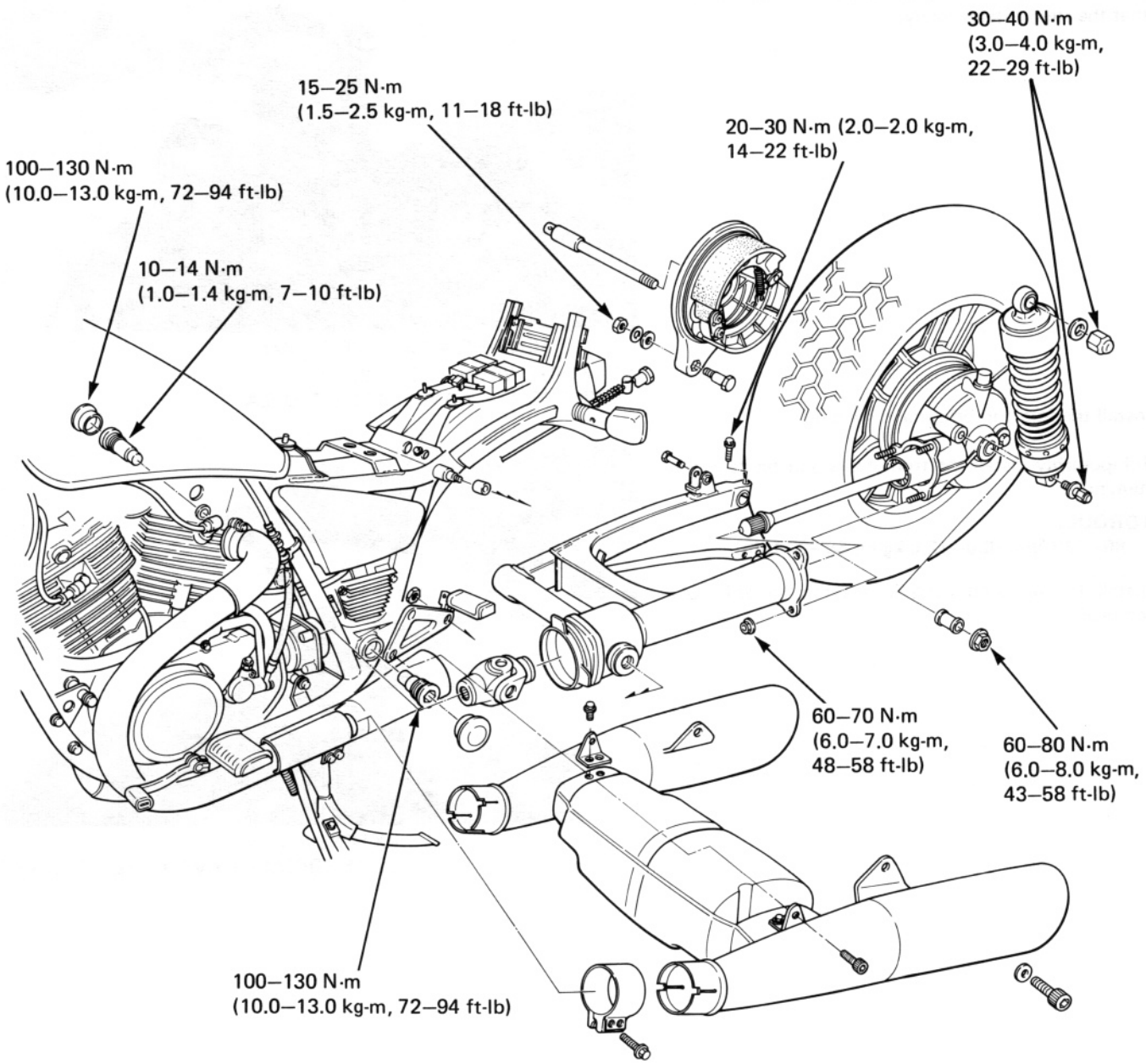

30–40 N·m
(3.0–4.0 kg-m,
22–29 ft-lb)
15–25 N·m
(1.5–2.5 kg-m, 11–18 ft-lb)
20–30 N·m (2.0–2.0 kg-m,
14–22 ft-lb)
100–130 N·m
(10.0–13.0 kg-m, 72–94 ft-lb)
10–14 N·m
(1.0–1.4 kg-m, 7–10 ft-lb)
60–70 N·m
(6.0–7.0 kg-m,
48–58 ft-lb)
60–80 N·m
(6.0–8.0 kg-m,
43–58 ft-lb)
100–130 N·m
(10.0–13.0 kg-m, 72–94 ft-lb)

16. REAR WHEEL/SUSPENSION/BRAKE

SERVICE INFORMATION

GENERAL

- The rear wheel uses a tubeless tire. For tubeless tire repairs, refer to the Tubeless Tire Manual.
- Never ride on the rim.

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)
Wheel bearing play		–	0.03 mm (0.001 in)
Shock absorber spring free length		223.8 mm (8.81 in)	211 mm (8.3 in)
Brake drum I.D.		160.0–160.3 mm (6.30–6.31 in)	161 mm (6.34 in)
Rear brake lining thickness		4.9–5.0 mm (0.19–0.20 in)	2.0 mm (0.08 in)

TORQUE VALUES

Rear axle nut	60–80 N·m (6.0–8.0 kg-m, 43–58 ft-lb)
Brake torque link bolt	15–25 N·m (1.5–2.5 kg-m, 11–18 ft-lb)
Axle pinch bolt	20–30 N·m (2.0–3.0 kg-m, 14–22 ft-lb)
Brake arm	24–30 N·m (2.4–3.0 kg-m, 17–22 ft-lb)
Shock absorber mount bolt	30–40 N·m (3.0–4.0 kg-m, 22–29 ft-lb)
Final driven flange	50–60 N·m (5.0–6.0 kg-m, 36–43 ft-lb)
Swingarm left pivot bolt	100–130 N·m (10.0–13.0 kg-m, 72–94 ft-lb)
Swingarm right pivot bolt	10–14 N·m (1.0–1.4 kg-m, 7–10 ft-lb)
Swingarm pivot lock nut	100–130 N·m (10.0–13.0 kg-m, 72–94 ft-lb)

TOOLS

Special

Shock absorber compressor attachment	07959–MB10000	
Swingarm pivot lock nut wrench	07908–ME90000	
Socket bit, 10 mm	07917–3710000	Commercially available in U.S.A.
Swingarm bearing remover	07936–4150000	or 07936–3710500
Slide hammer handle	07936–3710100	

Common

Driver	07749–0010000	
Attachment, 42 x 47 mm	07746–0010300	
Pilot, 17 mm	07746–0040400	
Attachment, 32 x 35 mm	07746–0010100	
Shock absorber compressor	07959–3290001	
Wheel bearing remover collet, 17 mm	07746–0050500	
Wheel bearing remover expander	07746–0050100	
Remover weight	07741–0010201	or 07936–3710200

TROUBLESHOOTING

Oscillation
1. Bent rim.
2. Loose wheel bearings.
3. Faulty tire.
4. Loose axle.
5. Tire pressure incorrect.
6. Swingarm bearings worn.
7. Worn tires.

Soft suspension
– Weak spring(s).

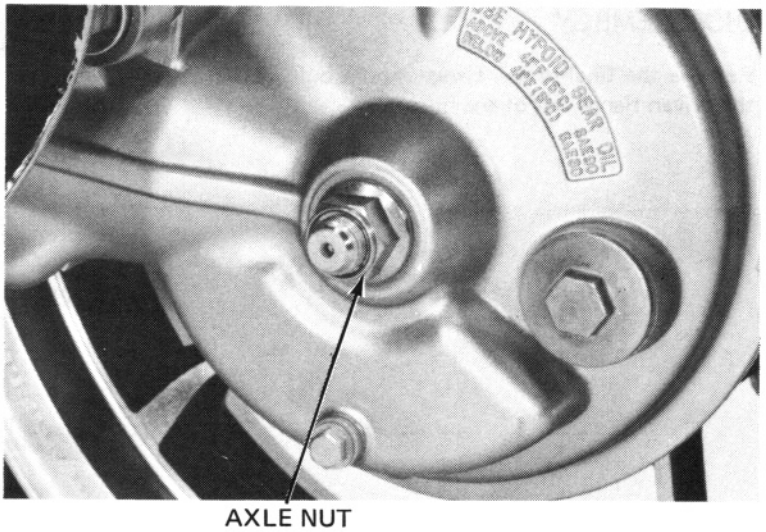
Hard suspension
– Bent shock absorber.

Suspension noise
1. Shock case binding.
2. Loose fasteners.

REAR WHEEL

REMOVAL

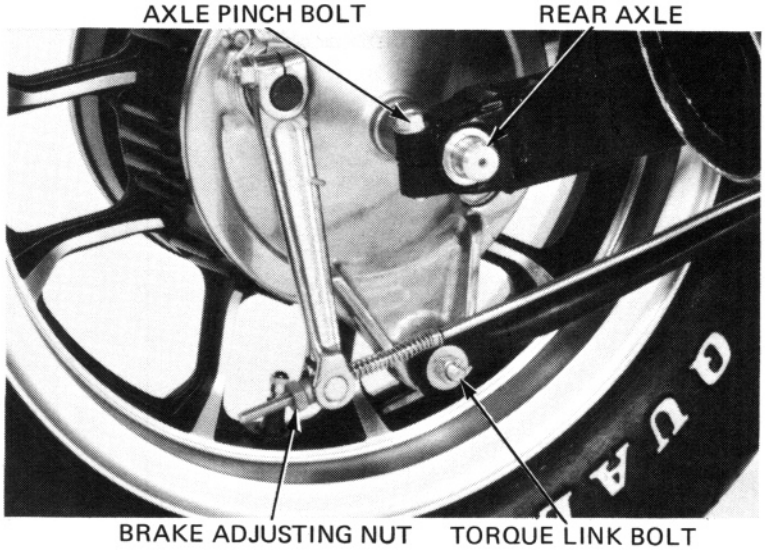
Place the motorcycle on its center stand and loosen the axle nut.



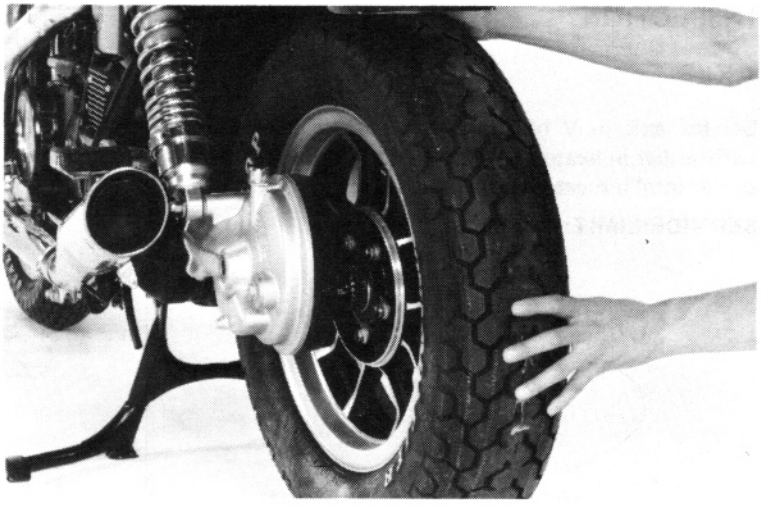
Remove the brake torque link bolt and disconnect the torque link.

Remove the brake adjusting nut and the brake rod.

Loosen the axle pinch bolt and remove the rear axle.



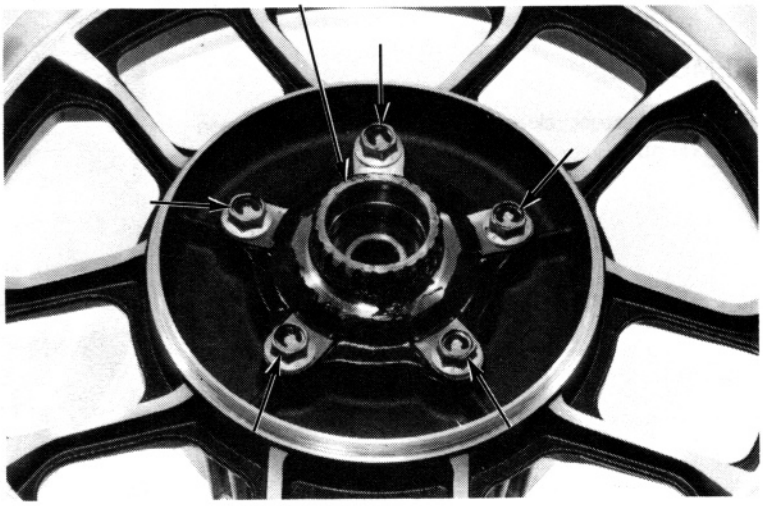
Move the wheel to the right to separate it from the final drive gear case and remove the rear wheel.



DISASSEMBLY

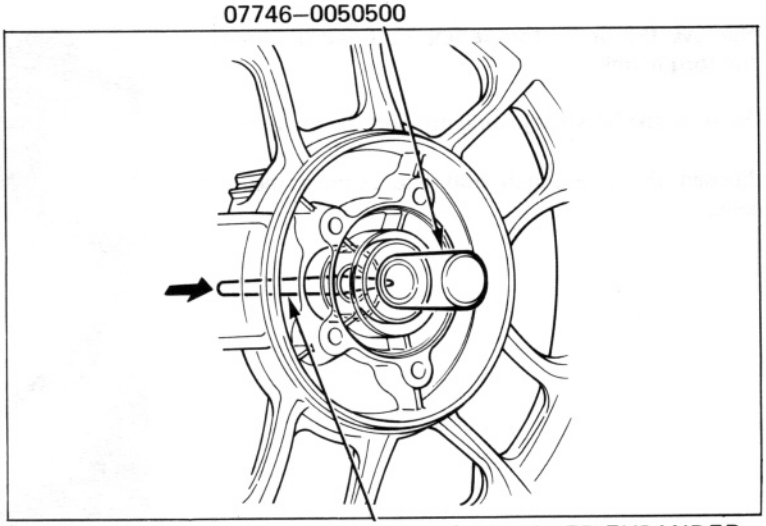
Remove the final driven flange mount bolts and lift the driven flange out of the hub.

FINAL DRIVEN FLANGE



Remove the wheel bearings and distance collar with the special tool.

WHEEL BEARING REMOVER COLLET, 17 mm
07746–0050500



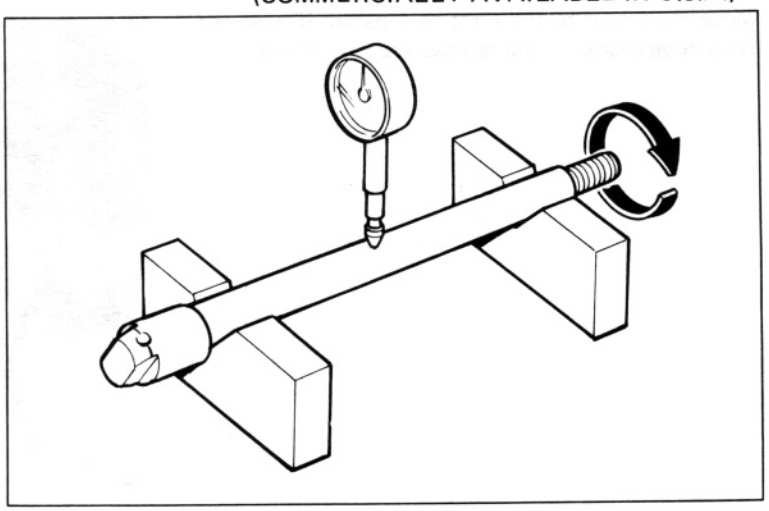
WHEEL BEARING REMOVER EXPANDER
07746–0050100
(COMMERCIALLY AVAILABLE IN U.S.A.)

INSPECTION

AXLE

Set the axle in V blocks and read the axle runout with a dial indicator. The actual axle runout is 1/2 of the total indicator reading.

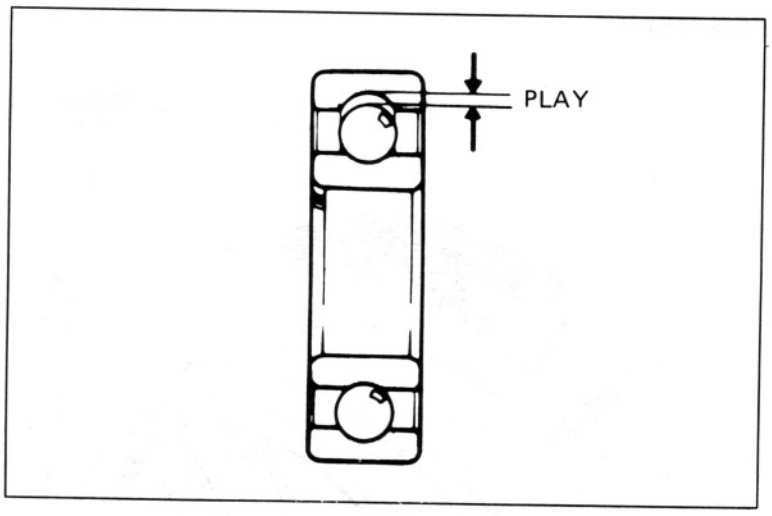
SERVICE LIMIT: 0.2 mm (0.01 in)



WHEEL BEARINGS

Place the wheel in a truing stand and check the wheel bearing play by rotating the wheel by hand. Replace the bearings with new ones if they are noisy or have excessive play.

SERVICE LIMIT: 0.03 mm (0.001 in)

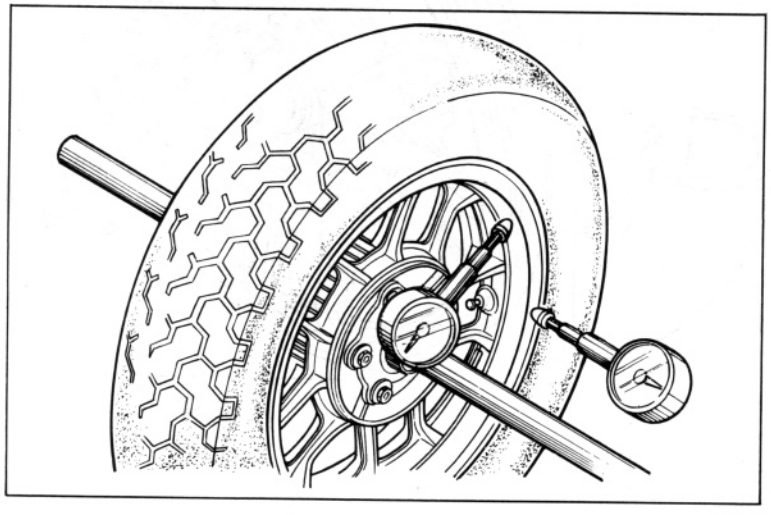


WHEEL RIM RUNOUT

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)

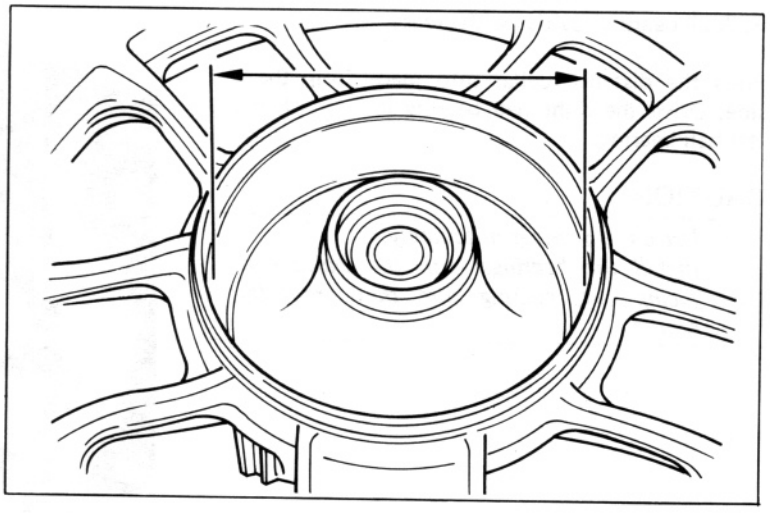
The wheel cannot be serviced and must be replaced if the above limits are exceeded.



BRAKE DRUM I.D.

Measure the brake drum I.D.

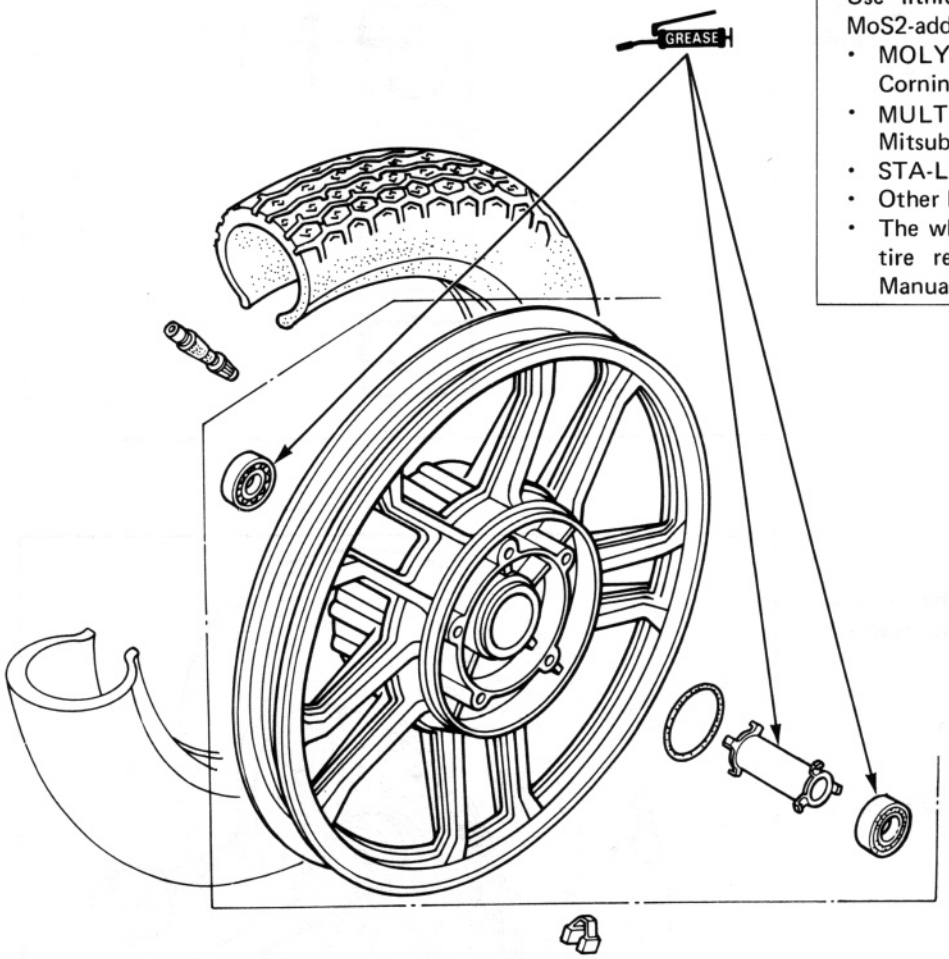
SERVICE LIMIT: 161 mm (6.34 in)

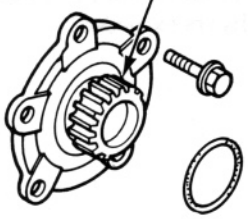


ASSEMBLY

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.
- STA-LUBE NLGI #2.
- Other lubricants of equivalent quality.
- The wheel uses a tubeless tire. For tubeless tire repairs, refer to the Tubeless Tire Manual.





Pack all bearing cavities with grease.

Press the distance collar into place from the left side. Drive the right ball bearing in first, then the left ball bearing.

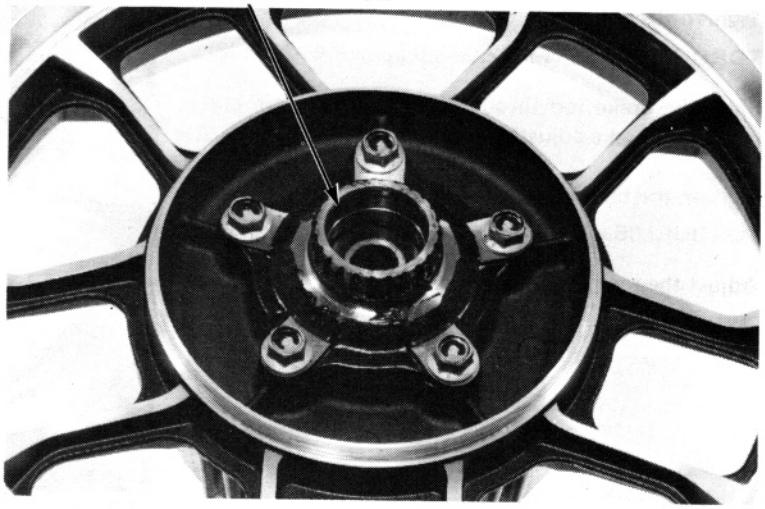
CAUTION:

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

Install the final driven flange onto the rear wheel. Apply LOCTYTE® to the bolt threads and tighten the bolts to the specified torque.

TORQUE: 50–60 N·m (5.0–6.0 kg-m, 36–43 ft-lb)

FINAL DRIVEN FLANGE



INSTALLATION

Apply Multipurpose NLGI No. 2 grease (MoS2-additive) to the final driven flange and ring gear engagement splines.

Loosen the final gear case attaching nuts to ease axle installation and to assure proper driven flange alignment.

Engage the rear wheel with the final drive case, making sure the splines are correctly aligned.

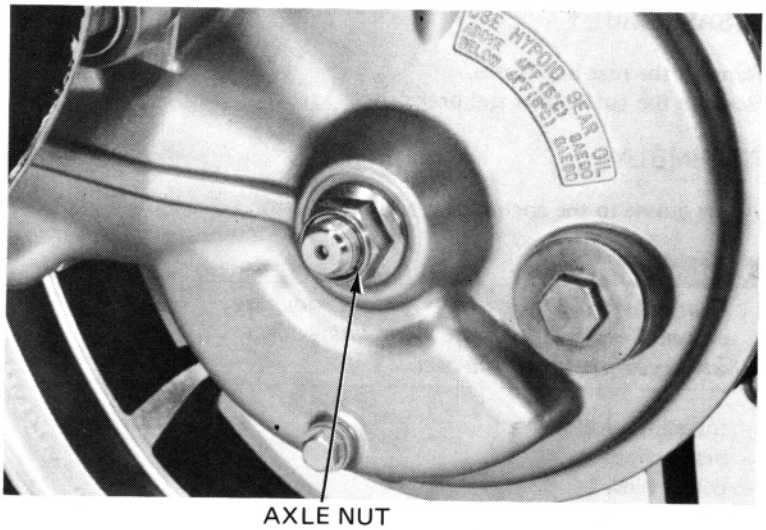
Insert the rear axle through the swingarm, side collar, brake panel, hub and final drive gear.

Tighten the axle nut.

TORQUE: 60–80 N·m (6.0–8.0 kg-m, 43–58 ft-lb)

Tighten the final gear case attaching nuts.

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



AXLE NUT

Tighten the axle pinch bolt.

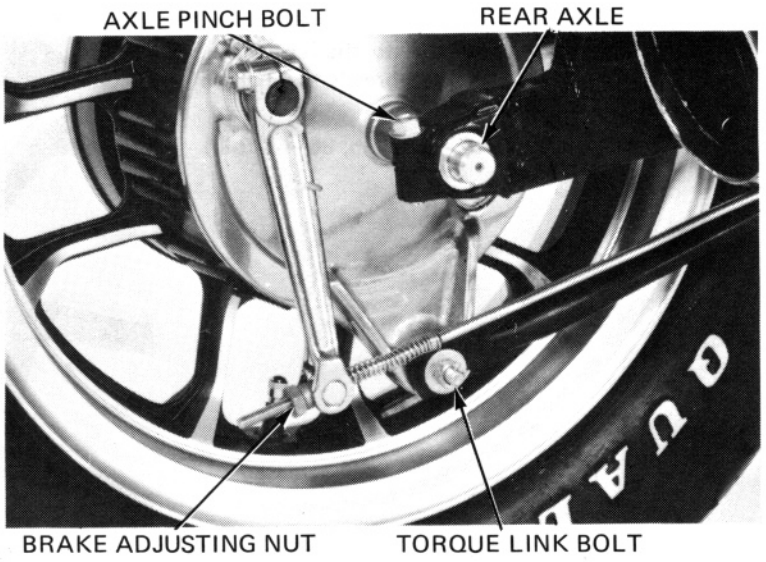
TORQUE: 20–30 N·m (2.0–3.0 kg-m, 14–22 ft-lb)

Place the brake rod through the brake arm pin and install the brake adjusting nut.

Tighten the brake torque link bolt.

TORQUE: 15–25 N·m (1.5–2.5 kg-m, 11–18 ft-lb)

Adjust the rear brake (page 3-18).



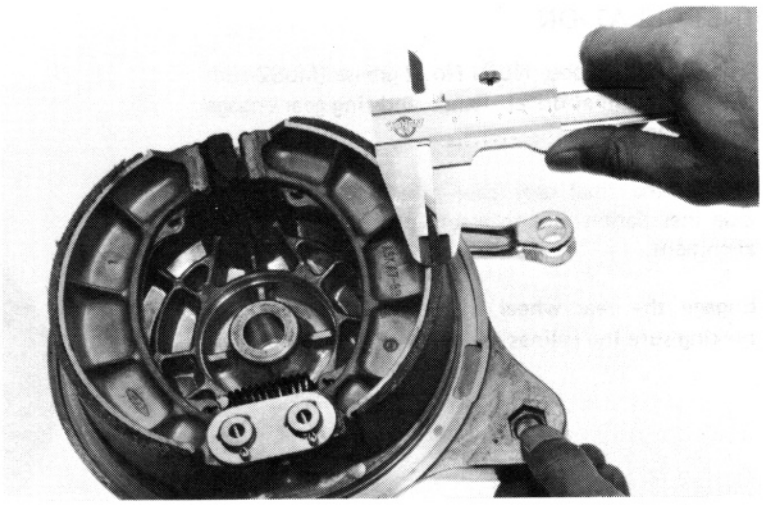
REAR BRAKE PANEL

LINING THICKNESS INSPECTION

Measure the rear brake lining thickness.

SERVICE LIMIT: 2.0 mm (0.08 in)

Replace the brake shoes if thinner than the service limit.



DISASSEMBLY

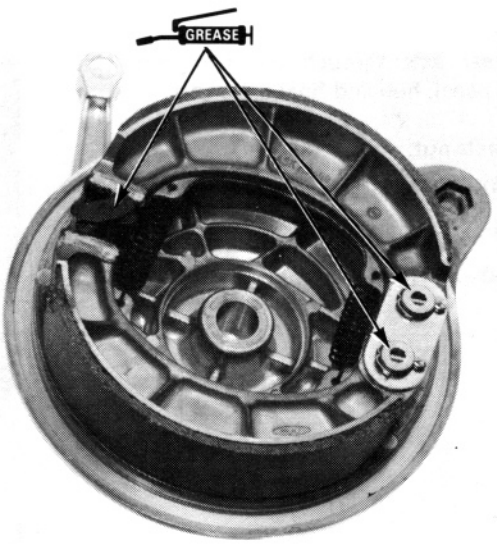
Remove the rear brake arm.
Remove the cotter pins and brake shoes.

ASSEMBLY

Apply grease to the anchor pins and brake cam.

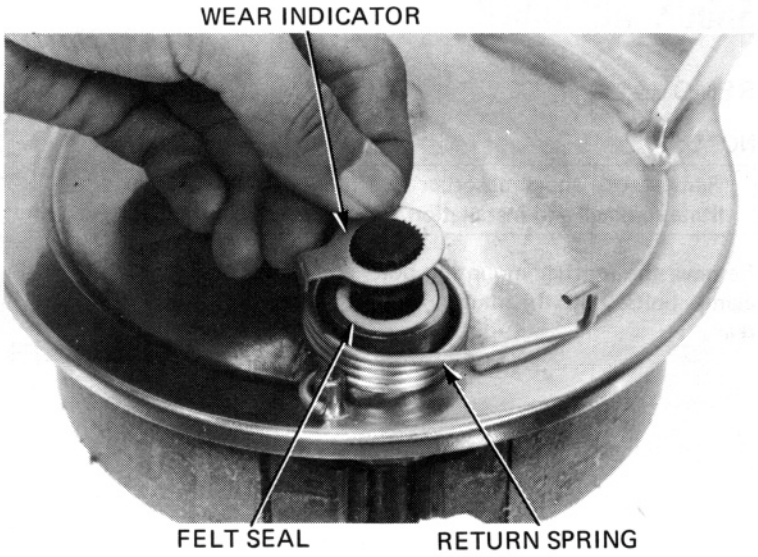
WARNING

Contaminated brake linings reduce stopping power. Keep grease off the brake linings. Wipe any excess grease off the cam.



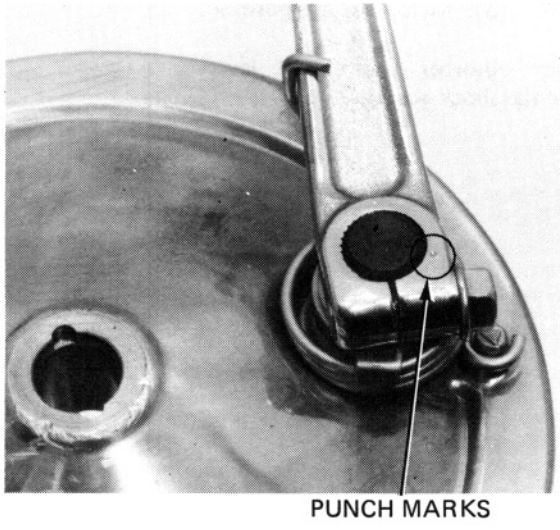
– Install the following.
– brake shoes.
– cotter pins.

Install the felt seal, return spring and wear indicator.



Install the brake arm, aligning the punch marks and tighten the brake arm bolt.

TORQUE: 24–30 N·m (2.4–3.0 kg-m, 17–22 ft-lb)



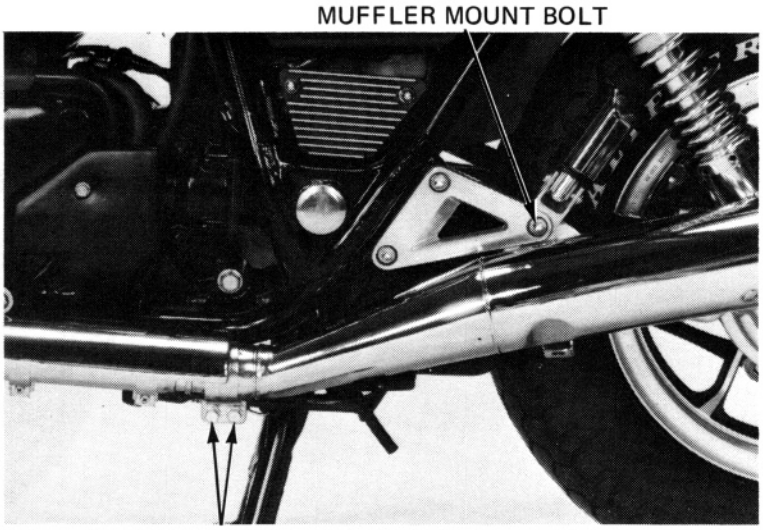
SHOCK ABSORBER

REMOVAL

NOTE:

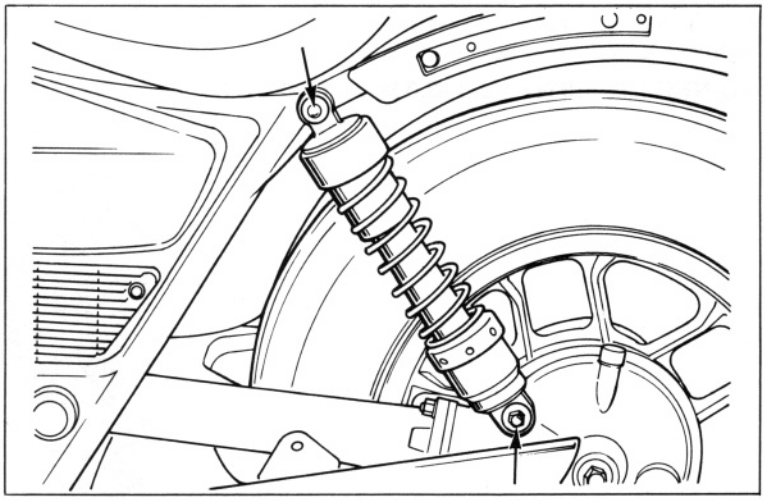
> Remove one shock absorber at a time to facilitate removal and installation.

Remove the muffler mounting bolts and loosen the clamp bolts. Pull the muffler slightly toward the rear.



Adjust the shock absorber to the softest position.

Remove the shock absorber upper and lower mounts and remove the shock absorber.



DISASSEMBLY

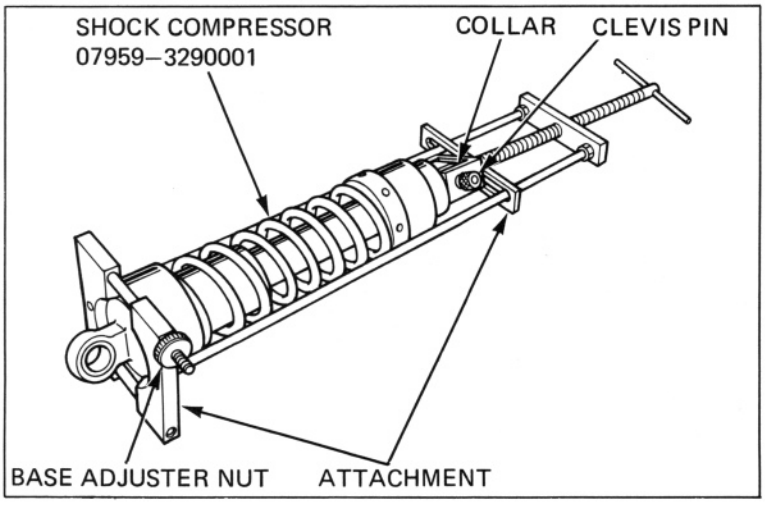
Replace base and guide of shock compressor, P/N 07959–3290001 with attachments, 07959–MB10000.

Place the collar P/N 52486–463–0000 or equivalent in the shock's bottom joint before putting the shock in the compressor.

Set the shock in the compressor as shown and compress the spring 30 mm by turning the compressor handle.

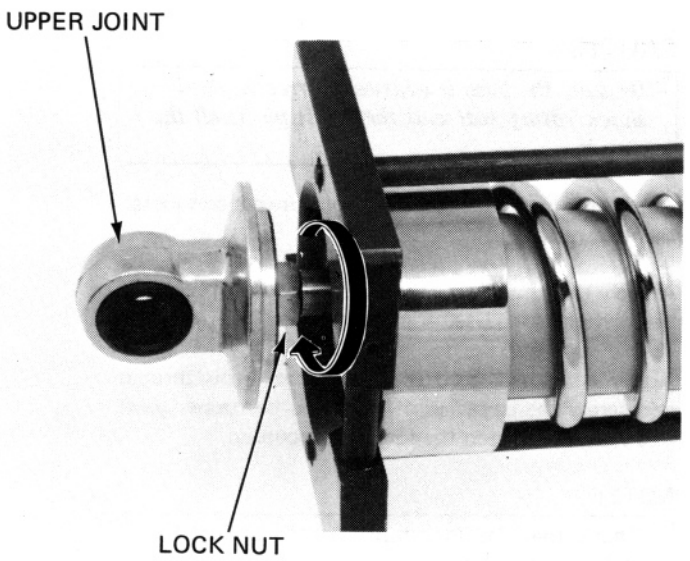
CAUTION:

> *Be sure the base is adjusted correctly for the shock spring seat and the clevis pin is all the way in.*



place the upper joint in a vise and pull the shock rod out.

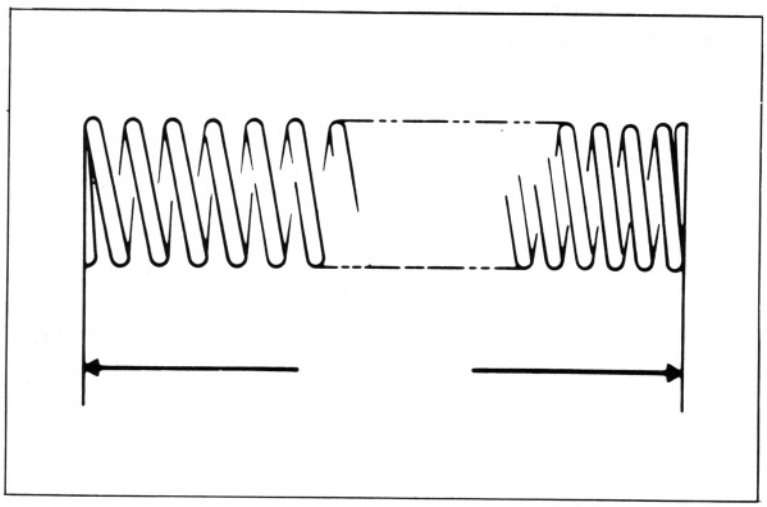
Separate the upper joint rotating the lock nut in the direction shown and remove the compressor.



SPRING FREE LENGTH

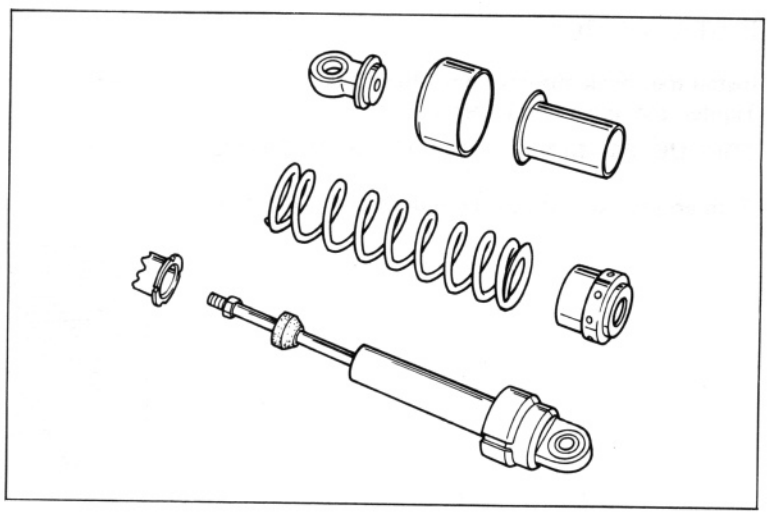
Measure the rear shock absorber spring free length.

SERVICE LIMIT: 211 mm (8.3 in)



ASSEMBLY

Place the spring adjuster, the spring lower seat, spring upper seat and stopper rubber on the damper.



CAUTION:

Be sure the base is adjusted correctly for the shock spring seat and the clevis pin is all the way in.

Apply a locking agent to the rod threads and install the lock nut.

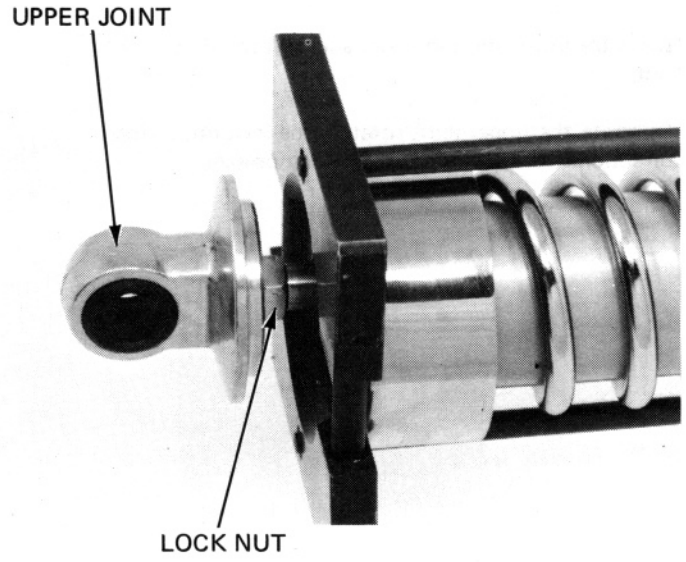
Attach the shock absorber compressor, screwing in the compressor's base adjuster nut.

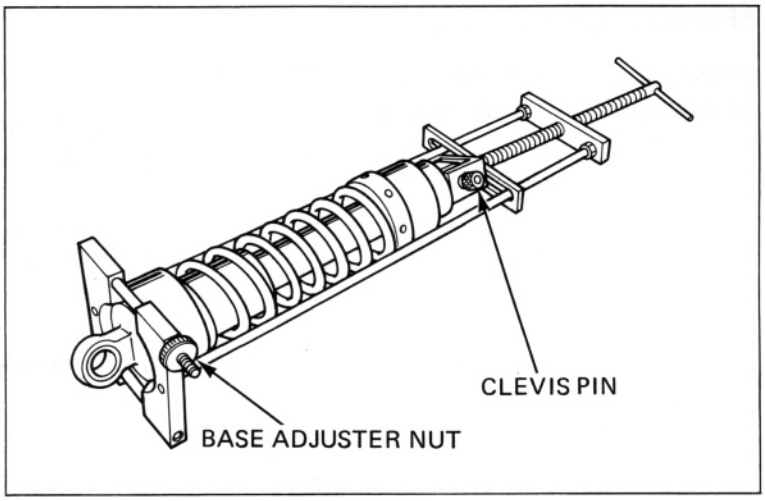
Apply a locking agent to the damper rod threads and screw the upper joint on. Hold the upper joint in a vise and tighten the lock nut securely.

NOTE:

Check that the lock nut is seated against the rod's bottom thread.

Align the spring seat with the upper joint while releasing the compressor.



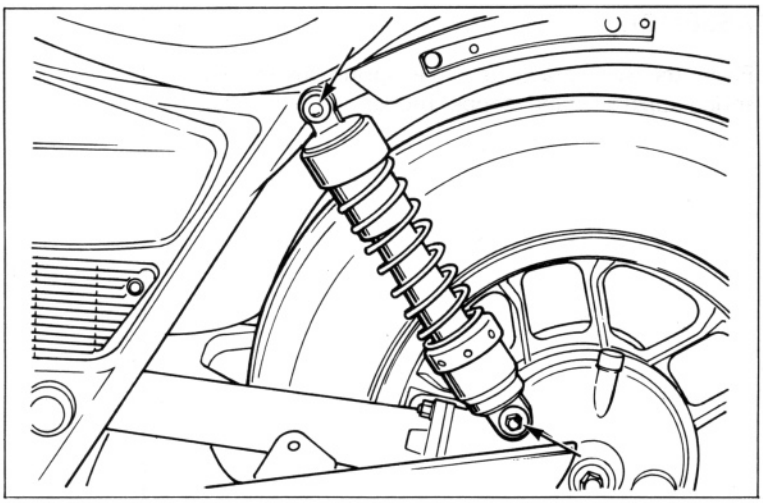


INSTALLATION

Install the shock absorber onto the frame.
Tighten the upper and lower mounts.

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

Tighten the exhaust muffler mount and clamp bolts.

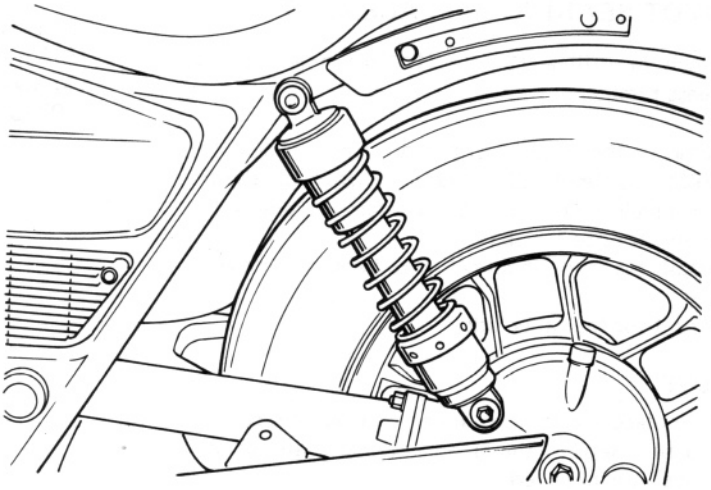


SWINGARM

REMOVAL

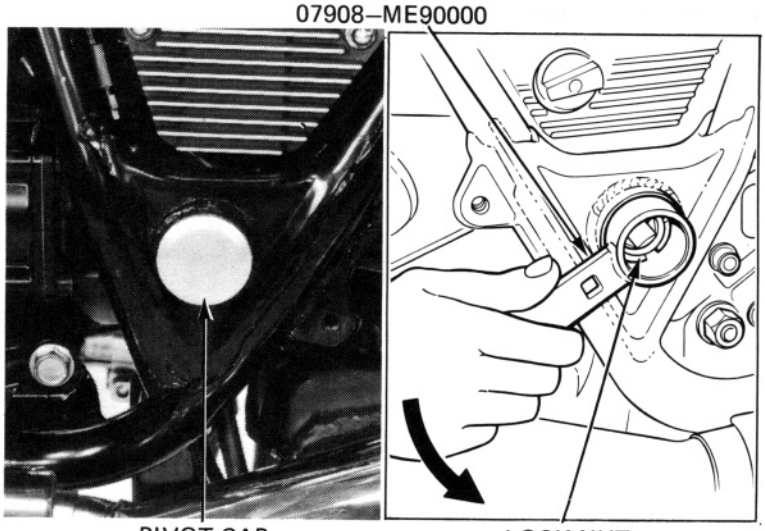
Remove the rear wheel (page 16-3) and the final drive gear case (page (14-3).

Remove the rear shock absorbers (page 16-10).



Remove the swingarm pivot caps and loosen the right pivot bolt lock nut.

SWINGARM PIVOT LOCK NUT WRENCH
07908–ME90000



PIVOT CAP

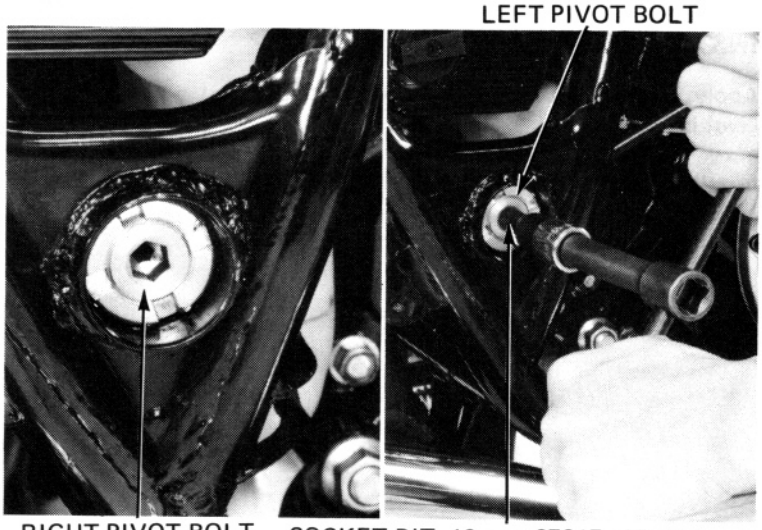
LOCK NUT

Remove the right pivot bolt, using the 10 mm socket bit.

Remove the left pivot bolt and remove the swingarm.

Remove the boot from the swingarm.

LEFT PIVOT BOLT



RIGHT PIVOT BOLT

SOCKET BIT, 10 mm 07917–3710000
COMMERCIALLY AVAILABLE IN U.S.A.

PIVOT BEARING REPLACEMENT

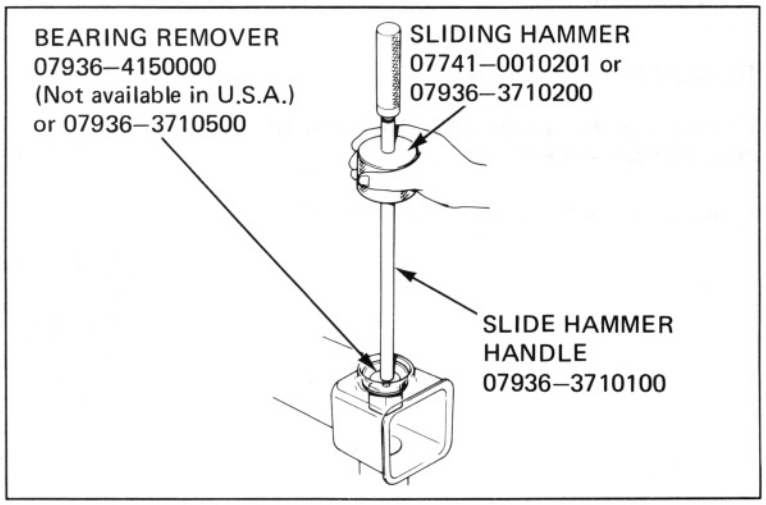
Punch or drill a 13 mm (1/2 in) hole into each grease retainer.

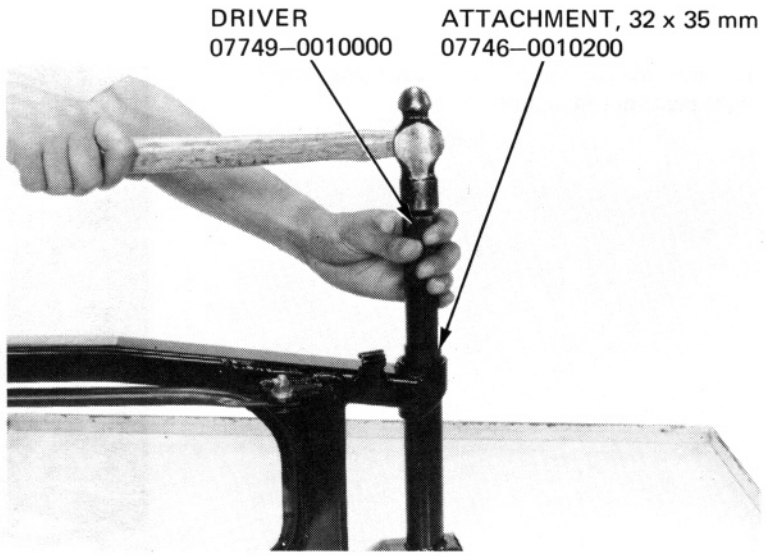
Remove the attachment from the special tool, 07936–3710500. Slide the shaft through the hole and install a 29 mm (O.D.) washer or equivalent attachment onto the shaft.
Install the slide hammer and handle remove the race.
Repeat for the other side.

NOTE:

> Replace the bearing inner and outer races as a set. Replace the grease retainer plate whenever it is removed.

Install new grease retainer plates and drive new bearing outer races into the swingarm pivot.



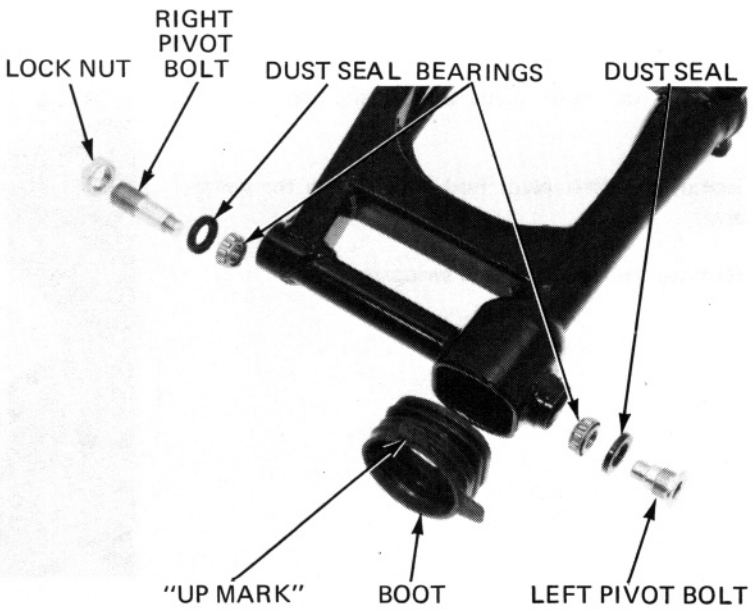


INSTALLATION

Apply grease to the pivot bearings dust seals and pivot bolt tips.

Install the bearings and dust seals.

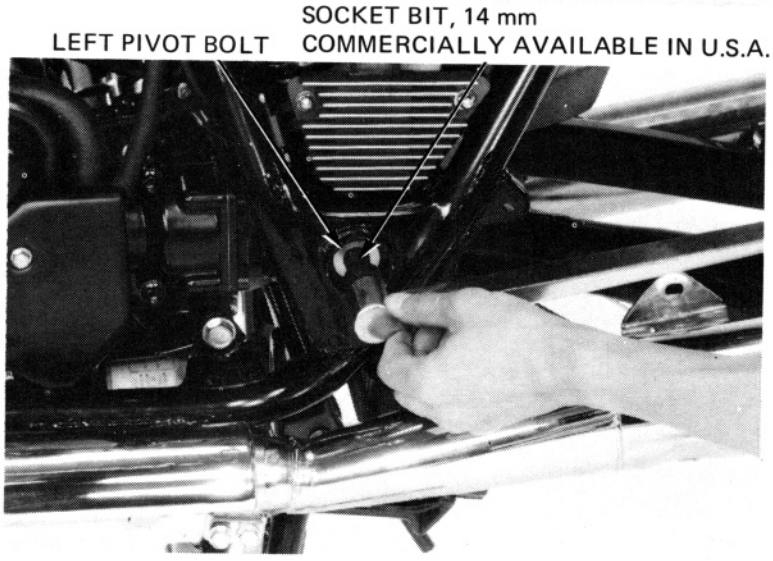
Install the swingarm boot with its "UP" mark up.



Install the swingarm and pivot bolts.

Tighten the left pivot bolt to the specified torque.

TORQUE: 100–130 N·m
(10.0–13.0 kg-m, 72–94 ft-lb)



Tighten the right pivot bolt to 20 N·m (2.0 kg-m, 14 ft-lb), loosen it and retighten to the specified torque.

TORQUE: 10–14 N·m
(1.0–1.4 kg-m, 7–10 ft-lb)

Move the swingarm up and down several times. Retighten the right pivot bolt to the specified torque.

Tighten the lock nut while holding the right pivot bolt.

TORQUE: 100–130 N·m
(10.0–13.0 kg-m, 72–94 ft-lb)

Install the final gear (page 14-17).
Install the rear wheel (page 16-7).
Install the shock absorbers (page 16-12).