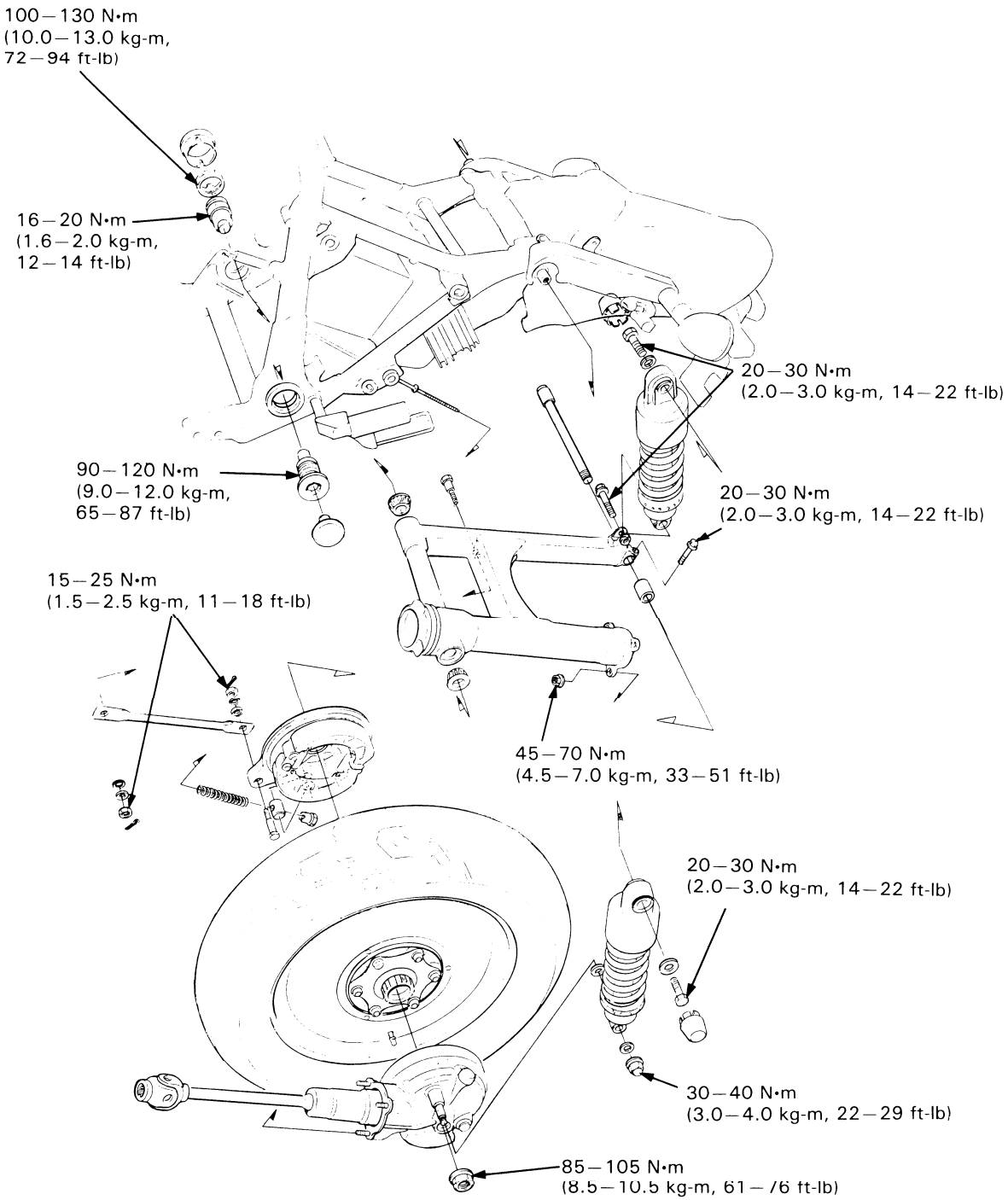

100—130 N•m
(10.0—13.0 kg-m,
72—94 ft-lb)
16—20 N•m
(1.6—2.0 kg-m,
12—14 ft-lb)
20—30 N•m
(2.0—3.0 kg-m, 14—22 ft-lb)
90—120 N•m
(9.0—12.0 kg-m,
65—87 ft-lb)
20—30 N•m
(2.0—3.0 kg-m, 14—22 ft-lb)
15—25 N•m
(1.5—2.5 kg-m, 11—18 ft-lb)
45—70 N•m
(4.5—7.0 kg-m, 33—51 ft-lb)
20—30 N•m
(2.0—3.0 kg-m, 14—22 ft-lb)
30—40 N•m
(3.0—4.0 kg-m, 22—29 ft-lb)
85—105 N•m
(8.5—10.5 kg-m, 61—76 ft-lb)

14. REAR WHEEL/SUSPENSION/BRAKES

SERVICE INFORMATION

GENERAL

WARNING

- *Brake dust may contain asbestos which can be harmful to your health. Do nut use compressed air to clean brake drums or brake panels. Use a vacuum cleaner with a sealed dust collector. Wear a protective face mask and thoroughly wash hands when finished.*

- The rear wheel uses a tubeless tire. For tubeless tire repaires, refer to the Tubeless Tire Manual.

SPECIFICATIONS

ITEM		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 spring free length		243.3 mm (9.58 in)	240 mm (9.5 in)
Brake drum I.D.		180—180.3 mm (7.09—7.10 in)	181 mm (7.13 in)
Rear brake lining thickness		4.9—5.0 mm (0.19—0.20 in)	2.0 mm (0.08 in)

TORQUE VALVES

Rear axle nut	85—105 N·m (8.5—10.5 kg-m, 61—76 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 pedal pinch bolt	24—30 N·m (2.4—3.0 kg-m, 17—22 ft-lb)
Shock absorber mount bolt	20—30 N·m (2.0—3.0 kg-m, 14—22 ft-lb)
nut (Lower)	30—40 N·m (3.0—4.0 kg-m, 22—29 ft-lb)
Final driven flange	60—70 N·m (6.0—7.0 kg-m, 43—51 ft-lb)
Swingarm left pivot bolt	90—120 N·m (9.0—12.0 kg-m, 65—87 ft-lb)
Swingarm right pivot bolt	16—20 N·m (1.6—2.0 kg-m, 12—14 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—4690001 or KS—HBA—08—469
Swingarm bearing remover	07936—4150000 or 07936—3710500
Remover handle	07936—3710100
Remover weight	07741—0010301 or 07936—3710200
Bearing remover set	07934—8890101
— Bearing remover	07736—8890300
— Weight	07741—0010201
— Handle	07936—3710100

Common

Driver	07749—0010000
Attachment, 42 x 47 mm	07746—0010300
Pilot, 20 mm	07746—0040500

Shock absorber compressor	07959—3290001	
Bearing remover, 20 mm	07746—0050600	or equivalent commercially available in U.S.A.
Wheel bearing remover shaft	07746—0050100	
Socket bit, 17 mm	07703—0020500	
Attachment, 37 x 40 mm	07746—0010200	

TROUBLESHOOTING

Oscillation
- Bent rim
- Loose wheel bearings
- Faulty tire
- Loose axle
- Incorrect tire pressure
- Worn swingarm bearings
- Worn tires

Soft suspension
- Weak spring(s)

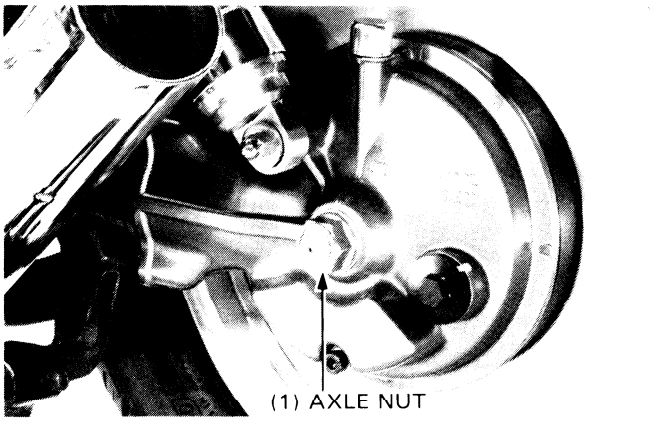
Hard suspension
- Bent shock absorber

Suspension noise
- Shock case binding
- Loose fasteners

REAR WHEEL

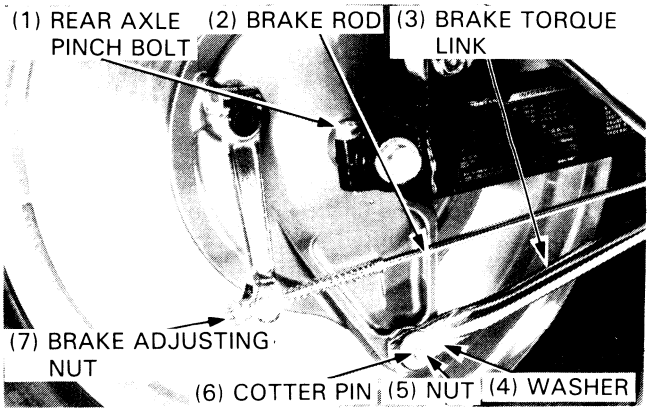
REMOVAL

Place a jack or support block under the engine, to raise the rear wheel off the ground.
Loosen the axle nut.

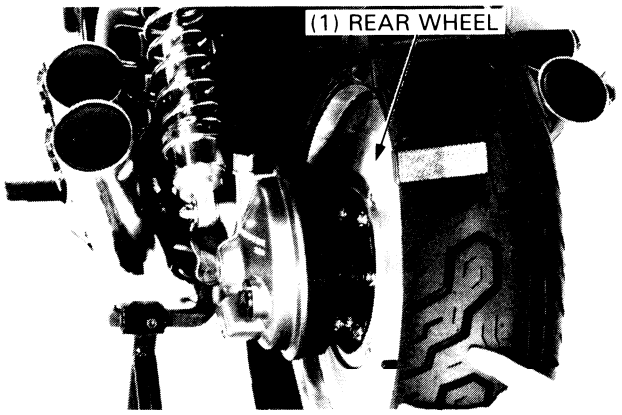


Remove the cotter pin, nut, washer and brake torque link bolt.
Disconnect the brake torque link.
Remove the brake adjusting nut and the brake rod.

Loosen the axle pinch bolt and remove the rear axle.



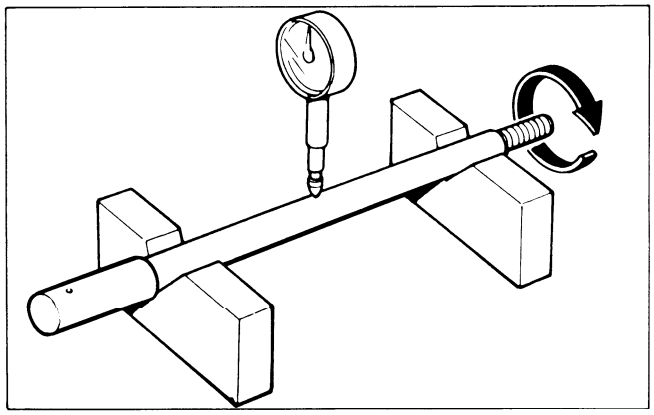
Move the wheel to the right to separate it from the final drive gear case and remove the rear wheel.



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.

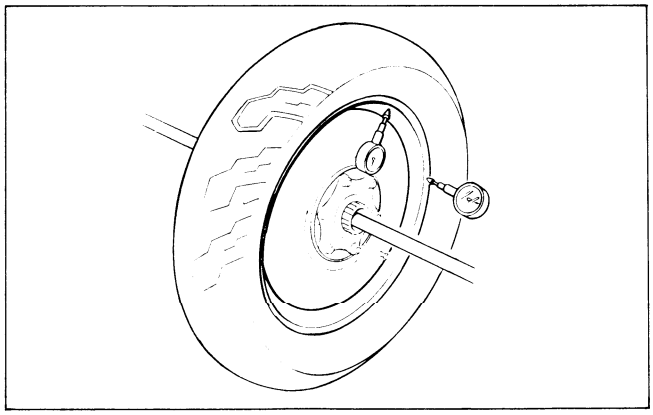
SERVICE LIMIT: 0.2 mm (0.01 in)



Wheel 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.

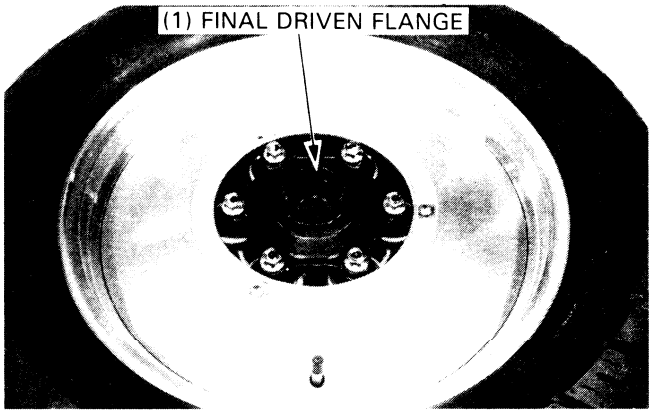


DISASSEMBLY

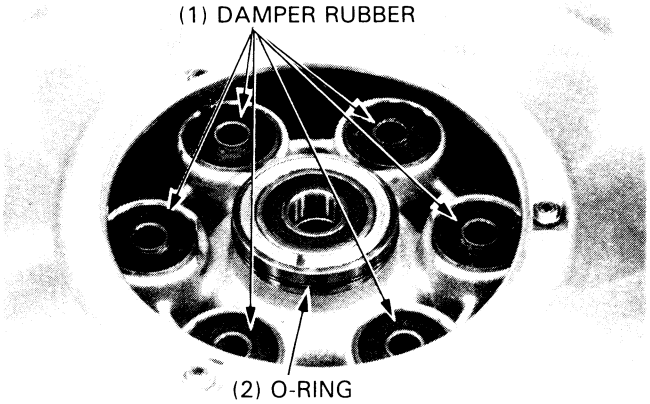
Remove the brake panel (page 14-8).
Lift the final drive flange out of the hub.

NOTE

- Do not try loosen the final drive flange nuts. The bolts are press fitted and the nuts are staked.



Inspect the wheel's damper rubbers.
Replace the wheel if the damper rubbers are damaged or deteriorated.
Remove the O-ring.



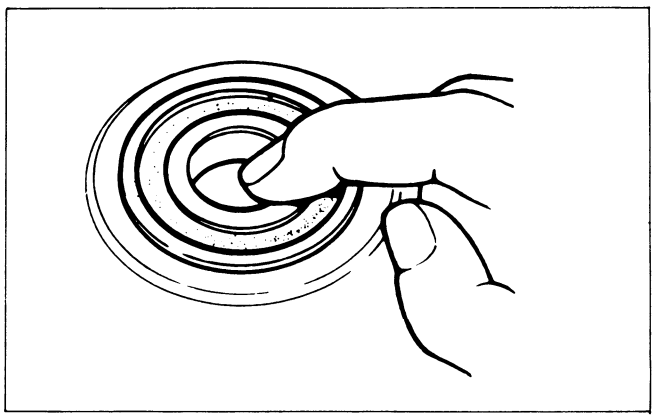
Bearing
Turn the inner race of each bearing with your finger. The bearing should turn smoothly and quietly. Also check that the bearing outer race fits tightly in the hub.

Remove and discard the bearings if the races do not turn smoothly, quietly or if they fit loosely in the hub.

NOTE

- Replace hub bearings in pairs.

For bearing replacement, see page 14-5.

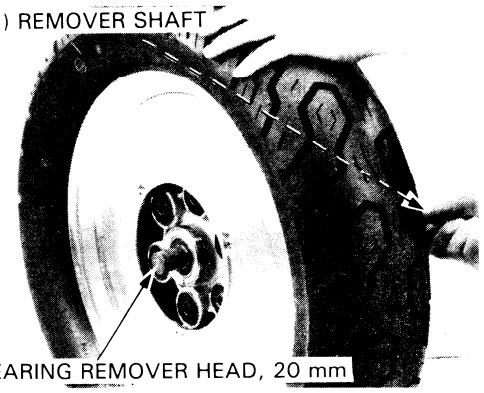


BEARING REPLACEMENT

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

TOOLS:

REMOVER SHAFT	**07746–0050100**
BEARING REMOVER HEAD, 20 mm	**07746–0050600**



Pack the new bearing cavities with grease.

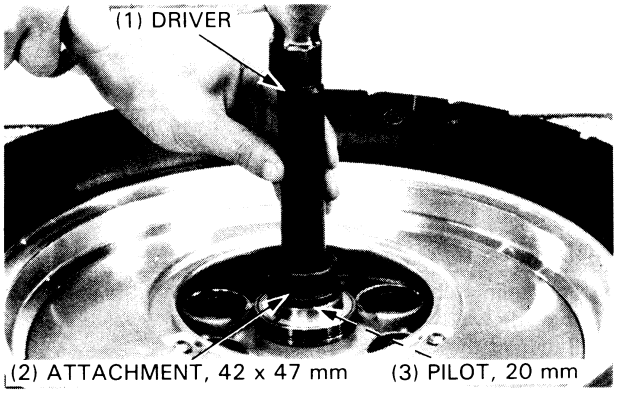
Press the distance collar into place from the left side.
Drive the right ball bearing in first, then the left ball bearing.

CAUTION

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

TOOLS:

DRIVER	**07749–0010000**
ATTACHMENT, 42 x 47 mm	**07746–0010300**
PILOT, 20 mm	**07746–0040500**



ASSEMBLY

WARNING

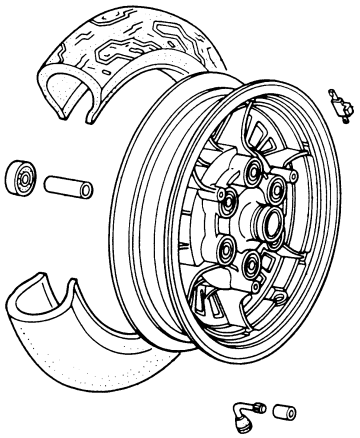
- *Do not get grease on the inside of brake drum.*

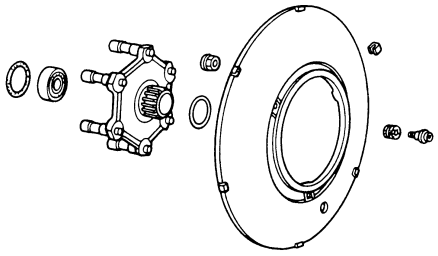
NOTE

Use lithium-based Multipurpose grease with MoS_2-additive as follows:

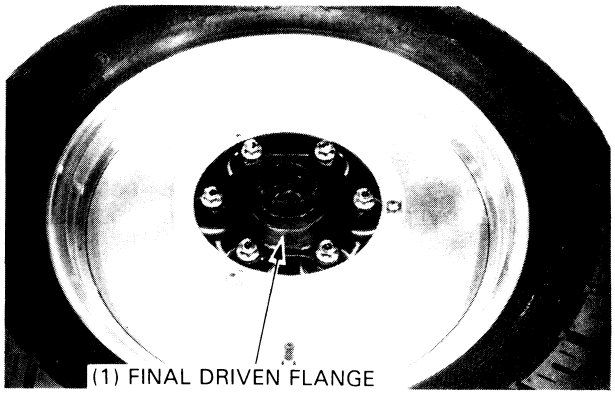
- MOLYKOTE BR2-S manufactured by Dow Corning, U.S.A.
- MULTIPURPOSE M-2 manufactured by Mitsubishi Oil, Japan.
- STA-LUBE NLGI #2.
- Other lubricants of equivalent quality.

The wheel uses a tubeless tire. For tubeless tire repairs, refer to the Tubeless Tire Manual.





Apply Multi purpose NLGI No.2 grease (MoS_2 additive) to the final driven flange, splines and pins.
Install the final driven flange into the rear wheel.
Install the O-ring.
Install the brake panel (page 14-10).



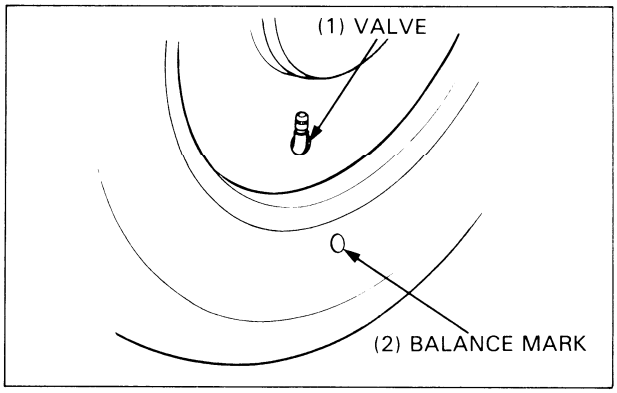
WHEEL BALANCING

CAUTION

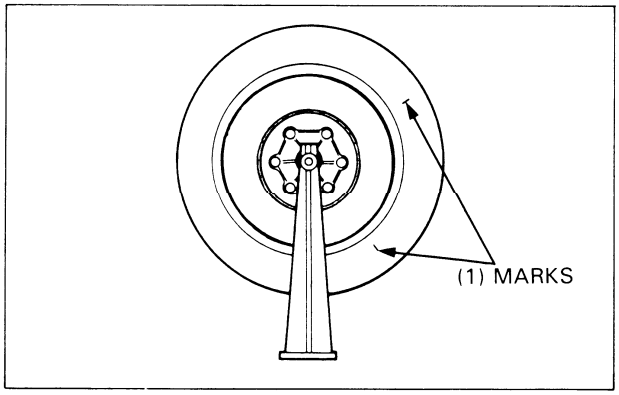
- *Wheel balance directly affects the stability, handling and overall safety of the motorcycle. Always check balance when the tire has been removed from the rim.*

NOTE

- For optimum balance, the tire balance mark (a paint dot on the side wall) must be located next to the valve stem. Remount the tire if-necessary.



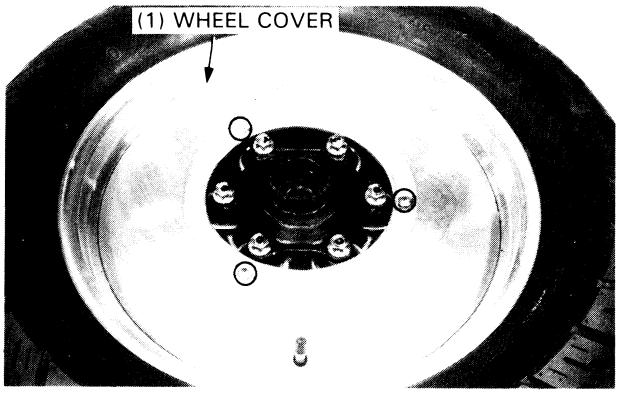
Mount the wheel, tire, and brake disc assembly in an inspection stand.
If a stand is not available, mount the wheel on its axle, and clamp the axle in a vise.
Spin the wheel, allow it to stop, and mark the lowest (heaviest) part of the wheel with chalk. Do this two or three times to verify the heaviest area. When the wheel is balanced, it will not stop consistently in the same position.



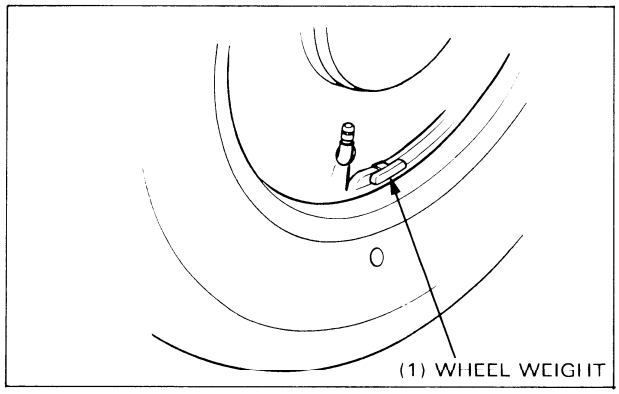
Remove the wheel cover.

NOTE

- Replace the grommet and seat wheel cover they are cut or peeled out while removing the wheel cover.
- To install a new seat, stick it securely on the wheel cover.



To balance the wheel, install wheel weights on the highest side of the rim, the side opposite to the chalk marks. Add just enough weight so the wheel will no longer stop in the same position when it's spun. Do not add more than 70 grams.
Install the wheel cover, mounting nuts and cover.

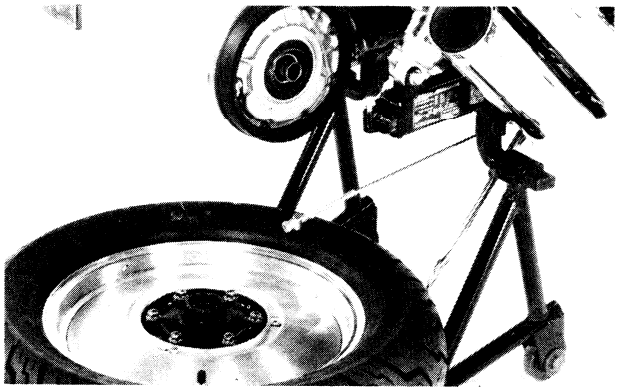


INSTALLATION

Apply Multipurpose NLGI No.2 grease (MoS_2 additive) to the ring gear engagement splines.

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

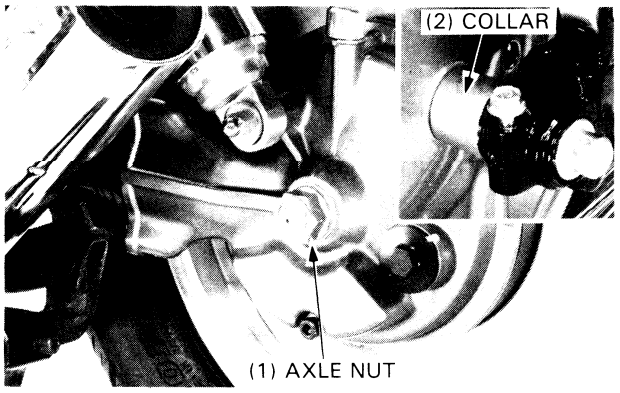
Engage the rear wheel with the final driven case, making sure the splines are correctly aligned.



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

Tighten the axle nut.

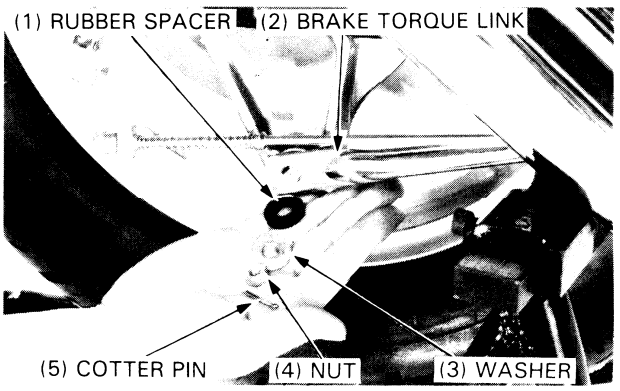
TORQUE: 85—105 N·m (8.5—10.5 kg-m, 61—76 ft-lb)



Install the rear brake torque link to the brake panel.
Install the rubber spacer, washer and nut.

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

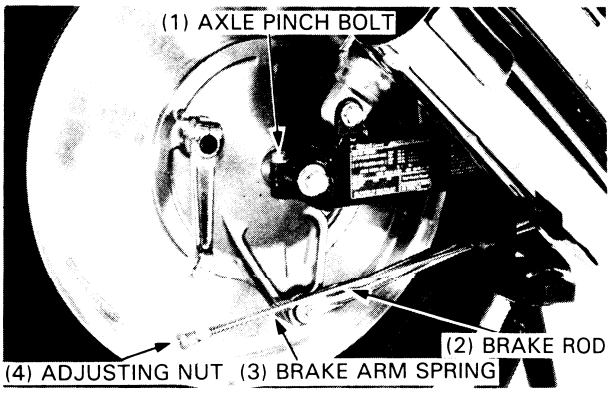
Install the new cotter pin.



Install the axle pinch bolt.

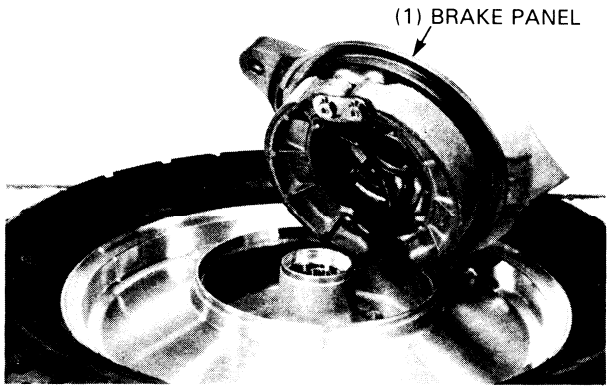
TORQUE: 20—30 N·m (2.0—3.0 kg-m, 14—22 ft-lb)

Connect the brake rod with brake arm spring and adjusting nut.
Adjust the rear brake (page 3-13).



REAR BRAKE

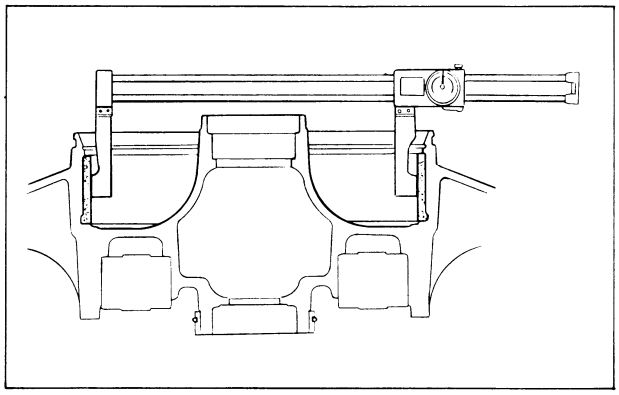
Remove the rear wheel (page 14-3).
Remove the rear brake panel.



INSPECTION

Brake Drum I.D.
Measure the brake drum I.D.

SERVICE LIMIT: 181 mm (7.13 in)

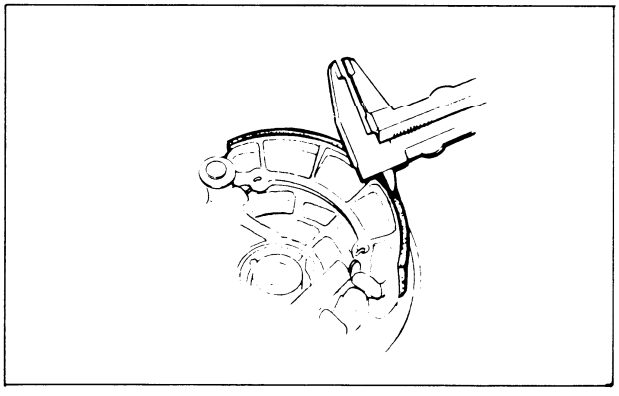


LINING THICKNESS INSPECTION

Rear Brake Panel
Measure the rear brake lining thickness.

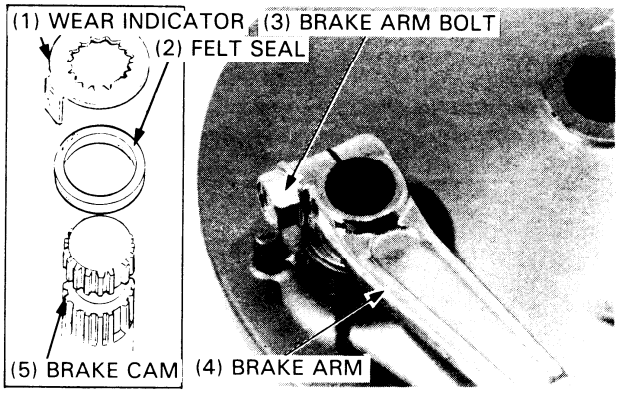
SERVICE LIMIT: 2.0 mm (0.08 in)

Replace the brake shoes if thinner than the service limit.



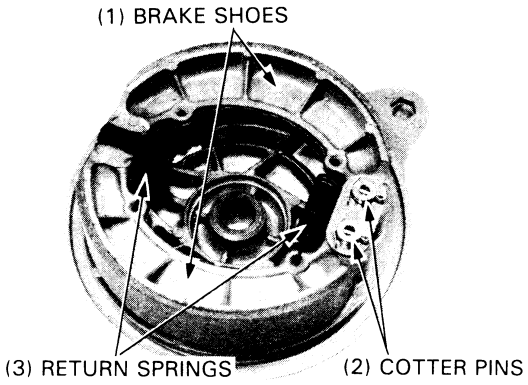
DISASSEMBLY

Remove the rear brake arm bolt and rear brake arm.
Remove the wear indicator and felt seal from the brake cam.

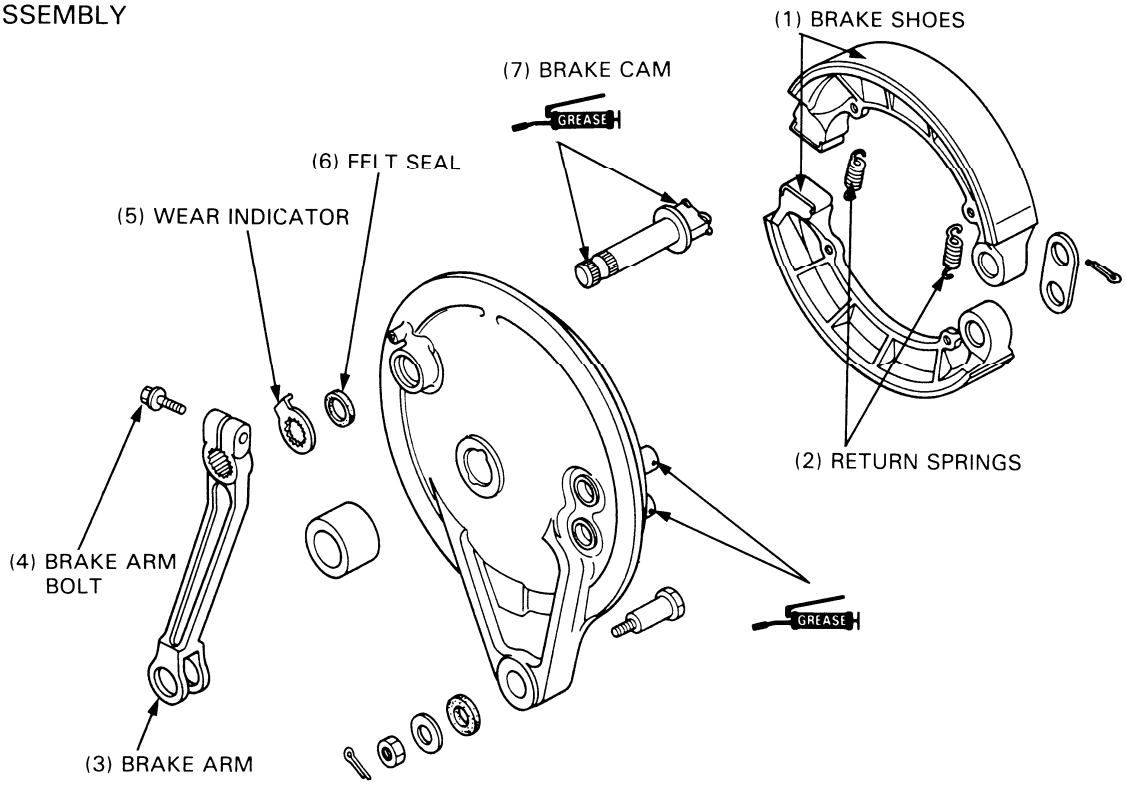


Remove the cotter pins and retainer plate.

Remove the brake shoes and return springs.
Remove the brake cam.



ASSEMBLY

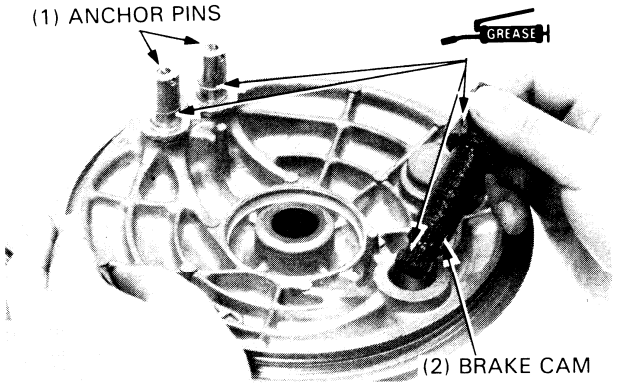


Apply grease to the anchor pins and brake cam.

WARNING

- *Contaminated brake linings reduce stopping power. Keep grease off the brake linings. Wipe any excessive grease off the cam.*

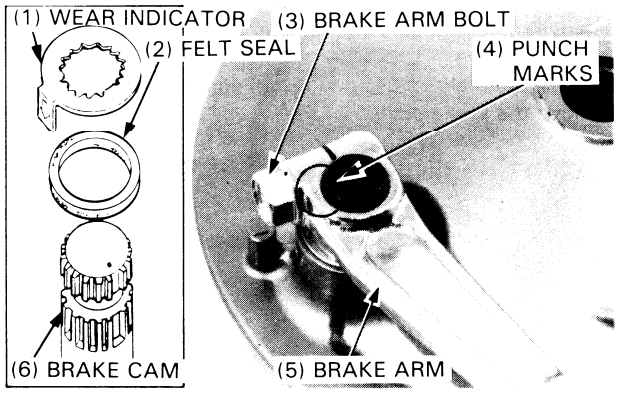
Install the brake cam.



Add a drop of oil to the felt seal and install it on the brake cam.
Install the wear indicator on the brake cam.

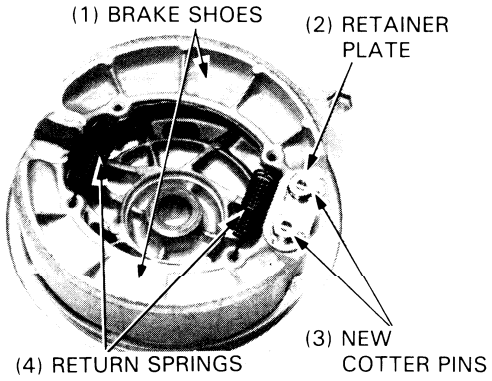
Install the brake arm, aligning the punch marks and tighten the brake arm bolt.

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

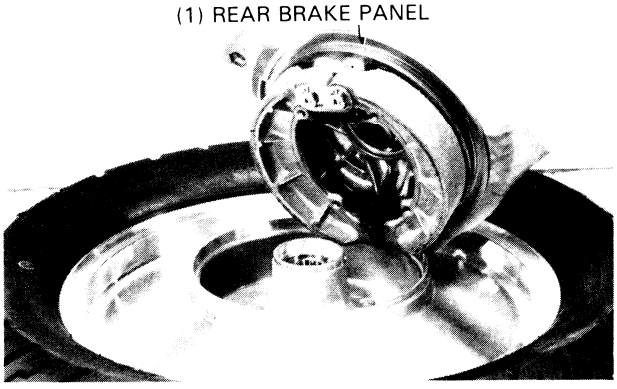


Install te brake shoes and return springs.

Install the retainer plate and set the new cotter pins.



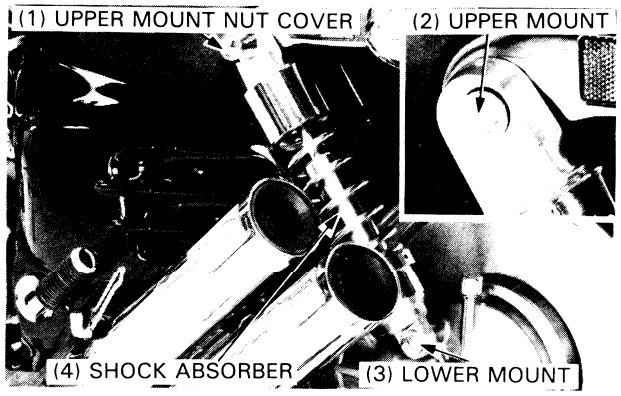
Install the rear brake panel.
Install the rear wheel (page 14-7).



SHOCK ABSORBER

REMOVAL

Place a juck or support brock under the engine to raise rear wheel off the ground.
Adjust the shock absorber to the softest position.
Remove the upper mount nut covers.
Remove the shock absorber upper and lower mounts and remove the shock absorber.



DISASSEMBLY

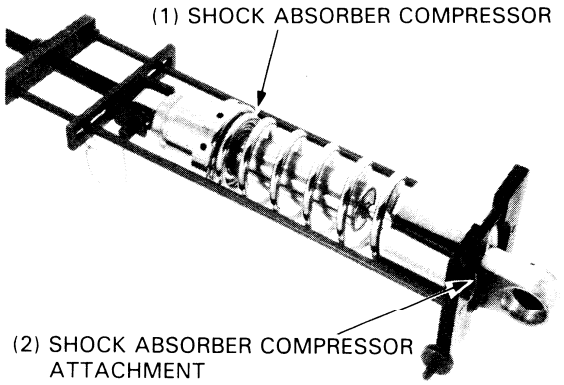
Replace base and guide of shock compressor, P/N 07959—3290001 with attachment, 07959—MB10000.

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.*

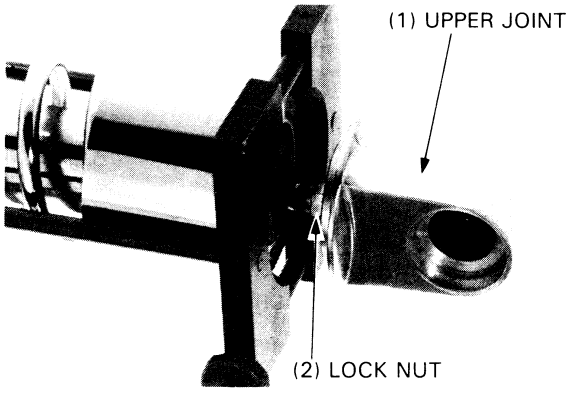


TOOLS:

SHOCK ABSORBER COMPRESSOR	**07959—3290001**
SHOCK ABSORBER COMPRESSOR ATTACHMENT	**07959—MB10000**

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

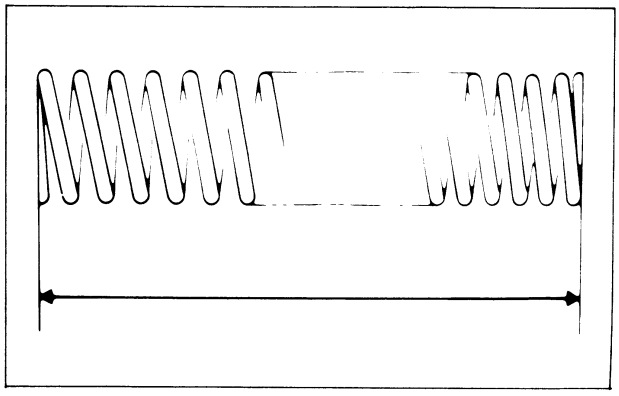
Separate the upper joint rotating the lock nut in the direction shown and remove the compressor.



SPRING FREE LENGTH

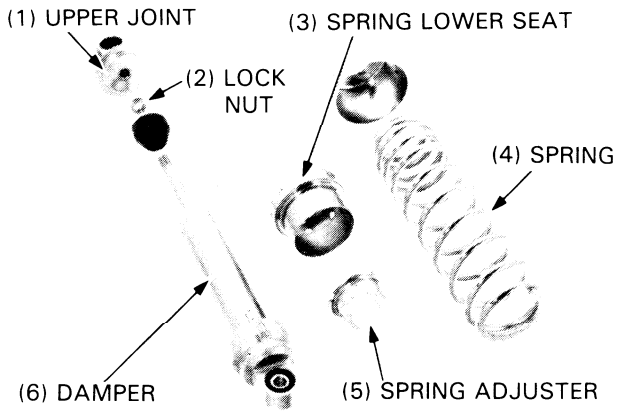
Measure the rear shock absorber spring free length.

SERVICE LIMIT: 240 mm (9.5 in)



ASSEMBLY

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



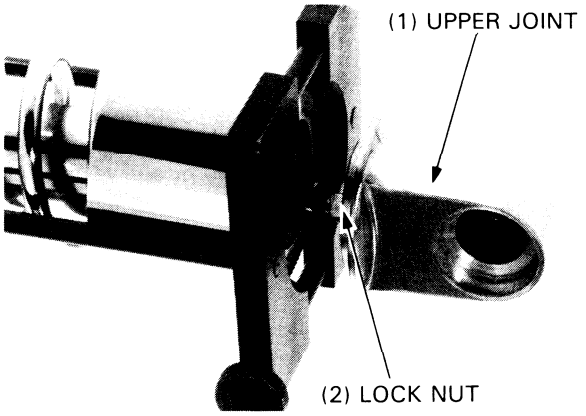
CAUTION

- *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.



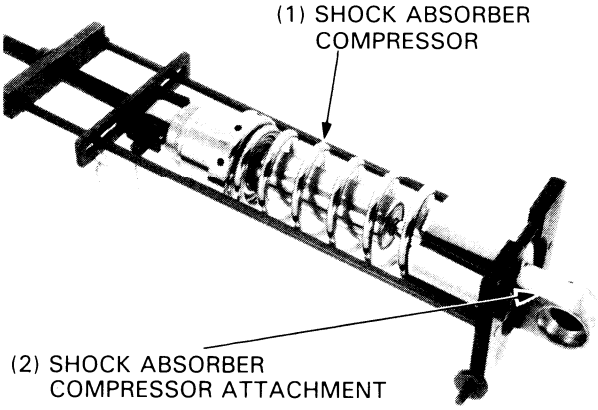
NOTE

- 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.

TOOLS:

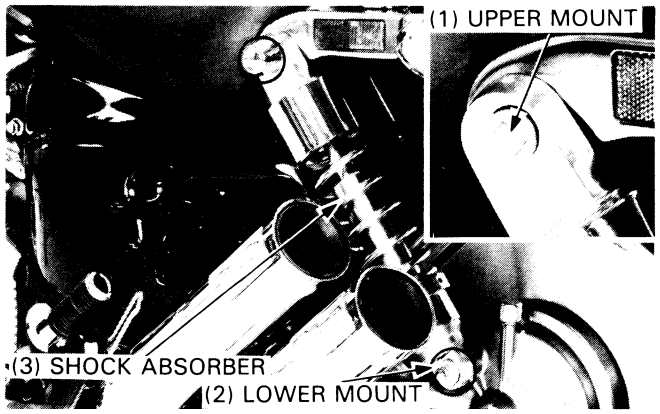
SHOCK ABSORBER COMPRESSOR	**07959—3290001**
SHOCK ABSORBER COMPRESSOR ATTACHMENT	**07959—MB10000**



INSTALLATION

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

TORQUE: NUT (LOWER)
30—40 N·m (3.0—4.0 kg-m, 22—29 ft-lb)
BOLT
20—30 N·m (2.0—3.0 kg-m, 14—22 ft-lb)



SWINGARM

REMOVAL

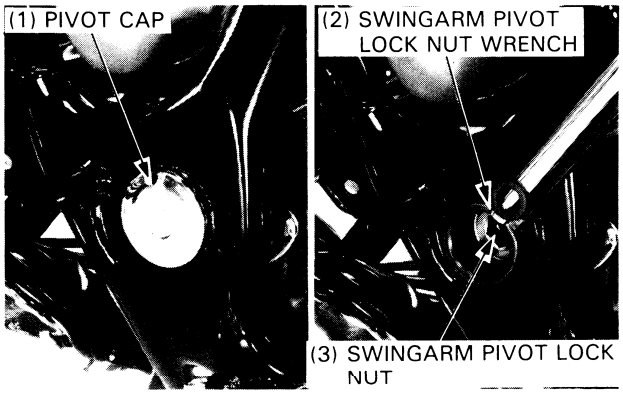
Remove the rear wheel (page 14-3) and the final drive gear case (page 12-3).

Remove the rear shock absorbers (page 14-11).

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

TOOL:

SWINGARM PIVOT LOCK NUT WRENCH	**07908—4690001 or KS—HBA—08—469**



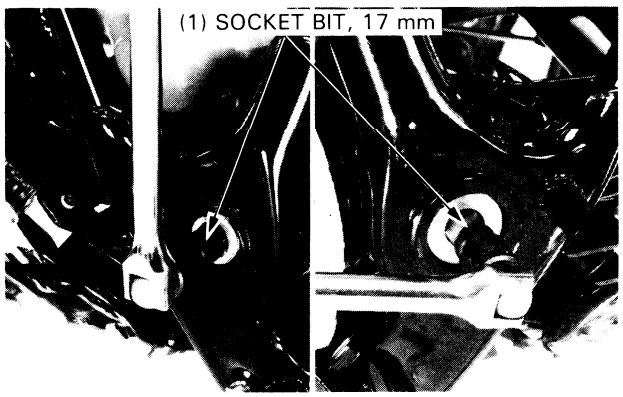
Remove the right pivot bolt using the 10 mm socket bit.

Remove the left pivot bolt and remove the swingarm.

Remove the boot from the swingarm.

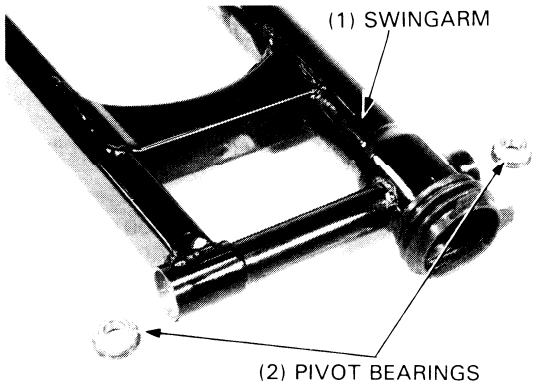
TOOL:

SOCKET BIT, 17 mm	**07703—0020500 or EQUIVALENT COMMERCIALLY AVAILABLE IN U.S.A.**



INSPECTION

Remove the pivot bearings.
Check the bearings for wear or damage.
Check the swingarm for cranks or damage.

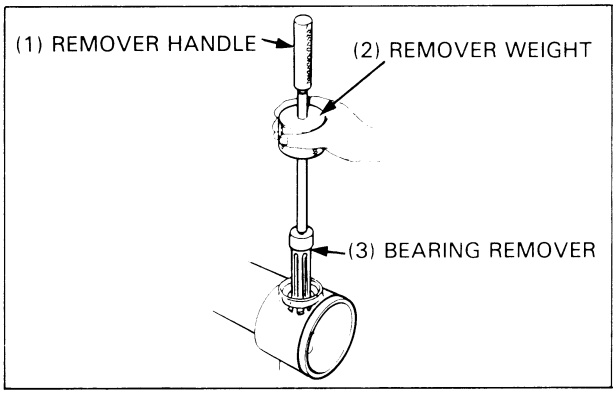


PIVOT BEARING REPLACEMENT

Drill a 30 mm (1.18 in) hole into each grease reatiner.
Insert the bearing remover set (07936—8890101) or bearing remover (07736—8890300), weight (07741—0010201), and handle (07936—3710100) into the grease retainer and pull the bearing race out.

TOOLS:

REMOVER HANDLE	**07936—3710100**
REMOVER WEIGHT	**07741—0010201**
BEARING REMOVER	**07936—8890300**



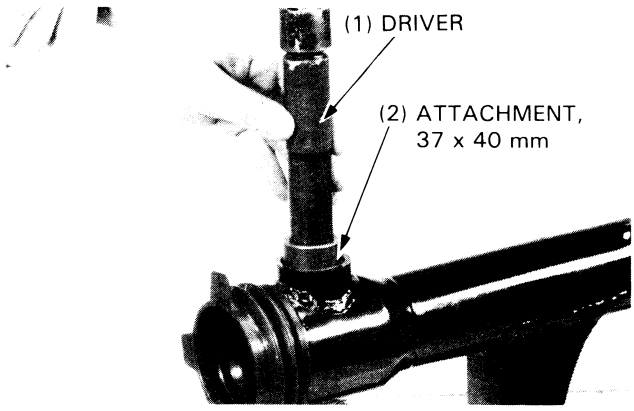
NOTE

- Replace the bearing inner and outer races as a set. Replace the grease retainer plate on reassembly.

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

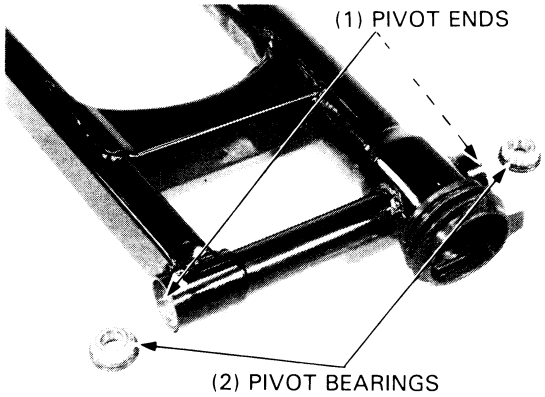
TOOLS:

DRIVER	**07749—0010000**
ATTACHMENT, 37 x 40 mm	**07746—0010200**



INSTALLATION

Apply grease to the pivot bearings, and pivot ends.
Install the bearings.



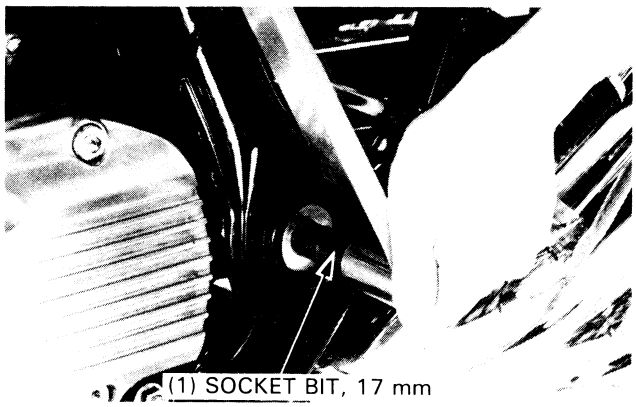
Install the swingarm and pivot bolts.

Tighten the left pivot bolt to the specified torque.

TORQUE: 90—120 N·m (9.0—12.0 kg-m, 65—87 ft-lb)

TOOL:

SOCKET BIT, 17 mm	**07703—0020500 or EQUIVALENT COMMERCIALLY AVAILABLE IN U.S.A.**



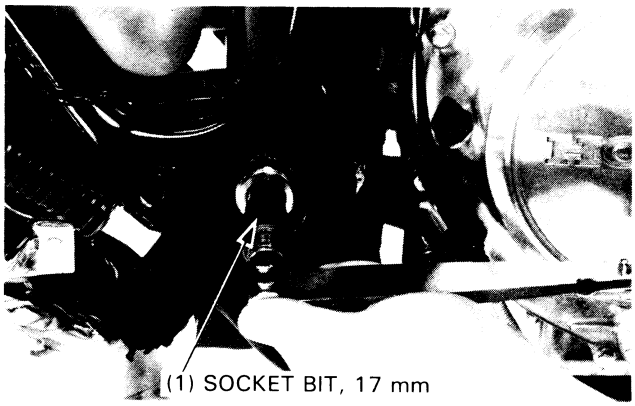
Tighten the right pivot bolt to 20 N·m (2.0 kg-m, 14 ft-lb), loosen it and retighten to the specified torque.

TORQUE: 16—20 N·m (1.6—2.0 kg-m, 12—14 ft-lb)

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

TOOL:

SOCKET BIT 17 mm	**07703—0020500 or EQUIVALENT COMMERCIALLY AVAILABLE IN U.S.A.**



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 12-14).
Install the rear wheel (page 14-6).
Install the shock absorber (page 14-13).

TOOLS:

SWINGARM PIVOT LOCK NUT WRENCH	**07908—4690001 or KS—HBA—08—469**
SOCKET BIT, 17 mm	**07703—0020500 or EQUVALENT COMMERCIALLY AVAILABLE IN U.S.A.**