• DRIVE CHAIN

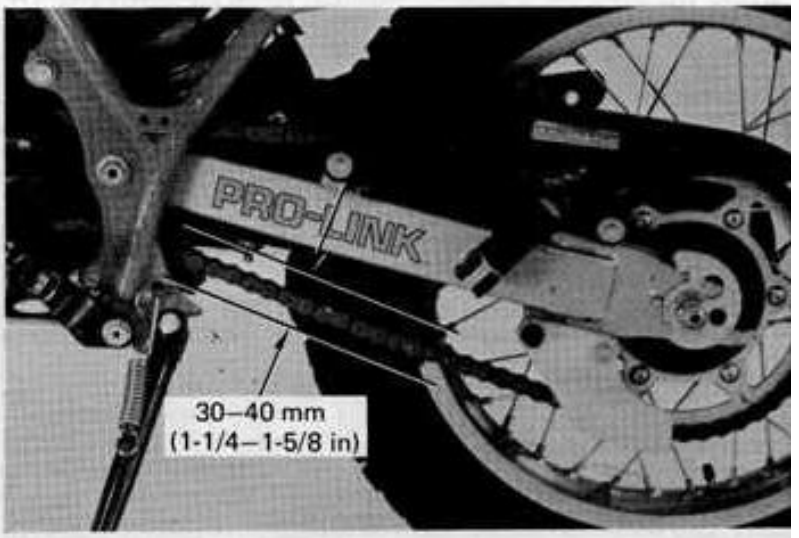
Stop the engine and shift the transmission into neutral.

Place the motorcycle on its side stand.

Inspect the drive chain slack midway between the sprockets on the lower chain run.

Move the chain up and down by hand and measure the amount of slack.

DRIVE CHAIN SLACK: 30–40 mm (1-1/4 – 1-5/8 in)



Adjust as follows:

Loosen the rear axle nut.
Turn both right and left adjusters equally to increase or decrease chain slack.

After adjusting, be sure the same adjustment index mark number aligns with the stopper pins on both side of the swingarm.

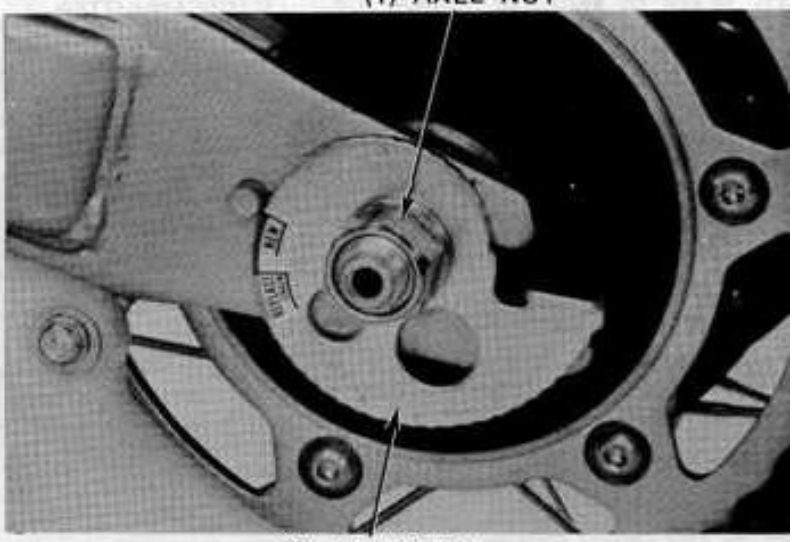
Tighten the rear axle nut.

TORQUE: 80–110 N·m (8.0–11.0 kg-m, 58–80 ft-lb)

Recheck the drive chain free play and free wheel rotation.

Check brake pedal free play and adjust, if necessary.

(1) AXLE NUT

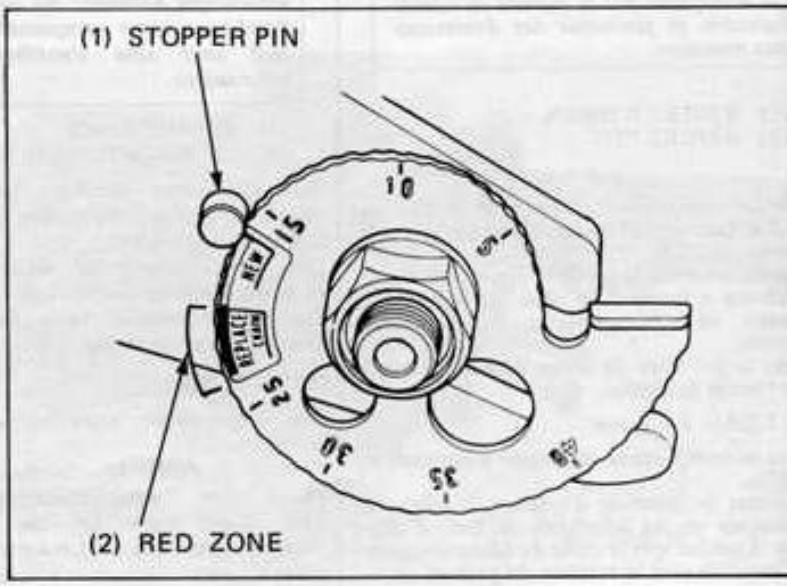


(2) ADJUSTER

Drive chain and sprocket inspection:

Replace the drive chain when the red zone on the label aligns with the center of the stopper pin after the chain has been adjusted to 20–30mm (1-1/4–1-5/8 in) slack.

Replacement chain: DID 520VS (DAIDO) or RK520SO (TAKASAGO)
100 Links : XL500R
102 Links : XL400R

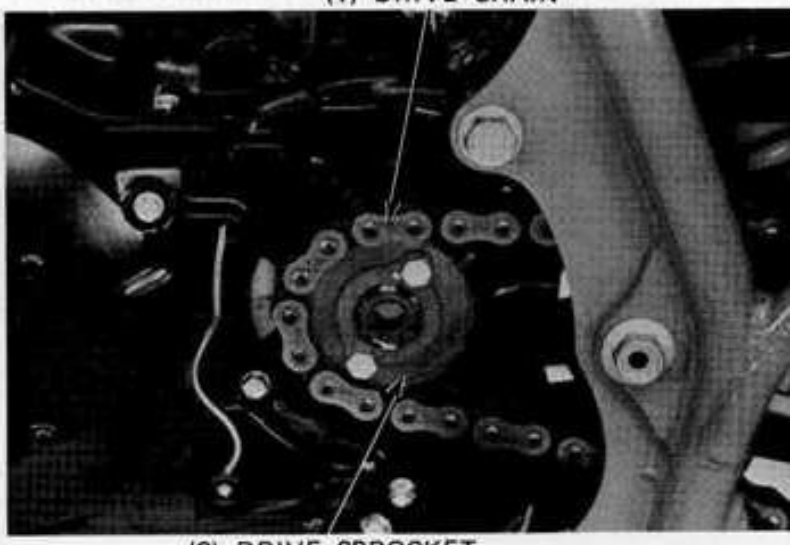


Inspect the drive chain and sprockets for damage or wear. A drive chain with damaged rollers, loose pins, or missing O-ring must be replaced. Replace any sprocket which is damaged or excessively worn.

NOTE

Never install a new drive chain on worn sprockets or a worn chain on new sprockets. Both chain and sprockets must be in good condition or the replacement chain or sprockets will wear rapidly.

(1) DRIVE CHAIN



(2) DRIVE SPROCKET

Drive chain slider inspection:

Check the chain slider for wear.

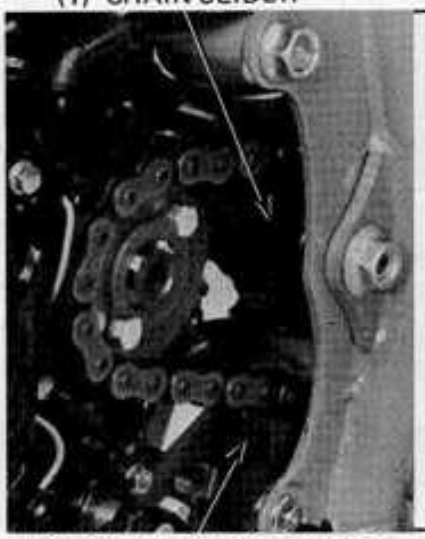
CAUTION

If the chain slider becomes worn so that the swingarm is exposed, the chain will wear against the swingarm.

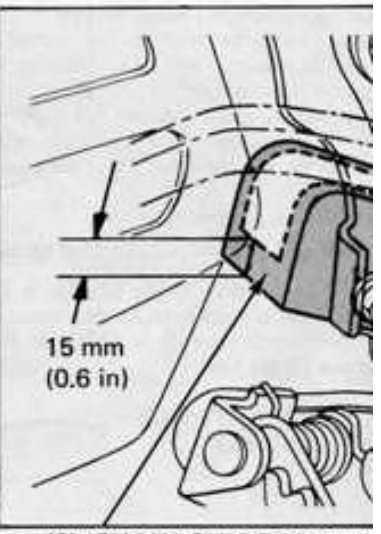
Inspect the chain guide slider and replace if the depth of the chain groove is greater than specified.

SERVICE LIMIT: 15 mm (0.6 in)

(1) CHAIN SLIDER



(2) CHAIN GUIDE SLIDER

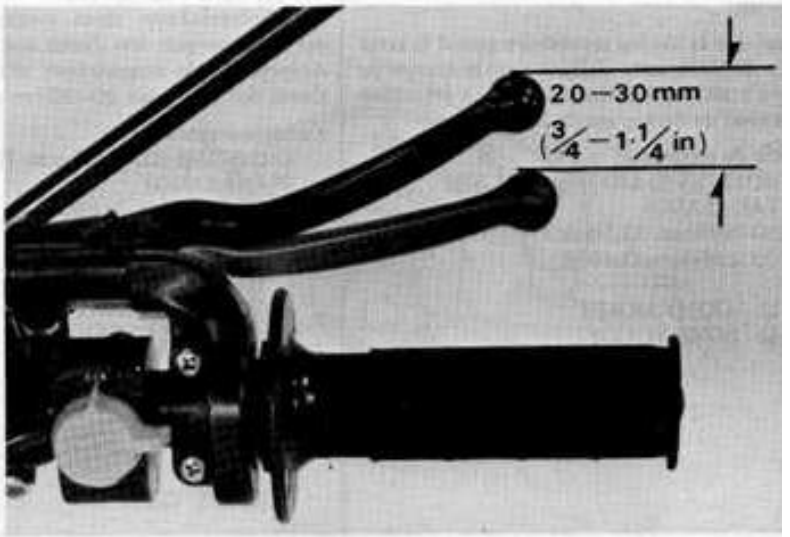


(2) CHAIN GUIDE SLIDER

• FRONT BRAKE

Measure the front brake lever free play at the tip of the brake lever.

BRAKE LEVER FREE PLAY:
20–30 mm (3/4 – 1-1/4 in)



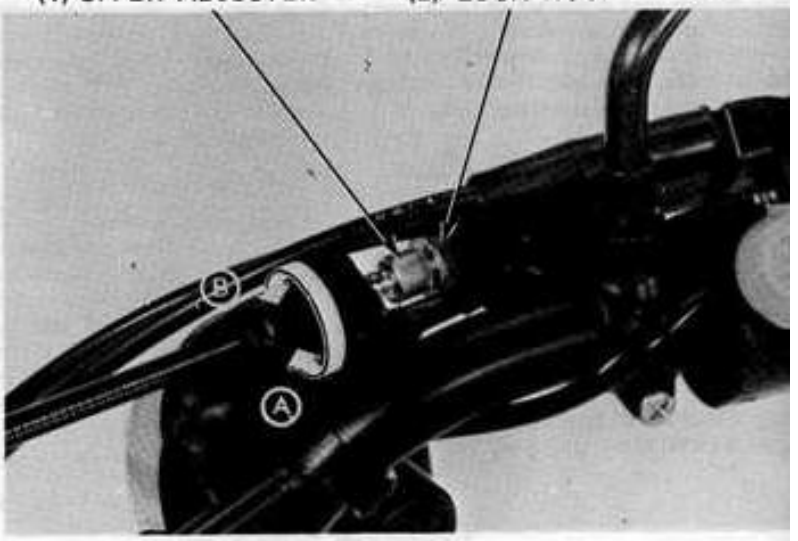
Perform minor adjustments with the upper adjuster on the handlebar.

Adjust the free play by loosening the lock nut and turning the upper adjuster.

Turn the upper adjuster in direction A to increase free play. Turn the upper adjuster in direction B to decrease free play.

Tighten the lock nut.

(1) UPPER ADJUSTER (2) LOCK NUT



Perform major adjustments with the lower adjuster on the brake panel.

Loosen the fornt brake cable guide bolts. Adjust the free play by loosening the lock nut and turning the lower adjuster.

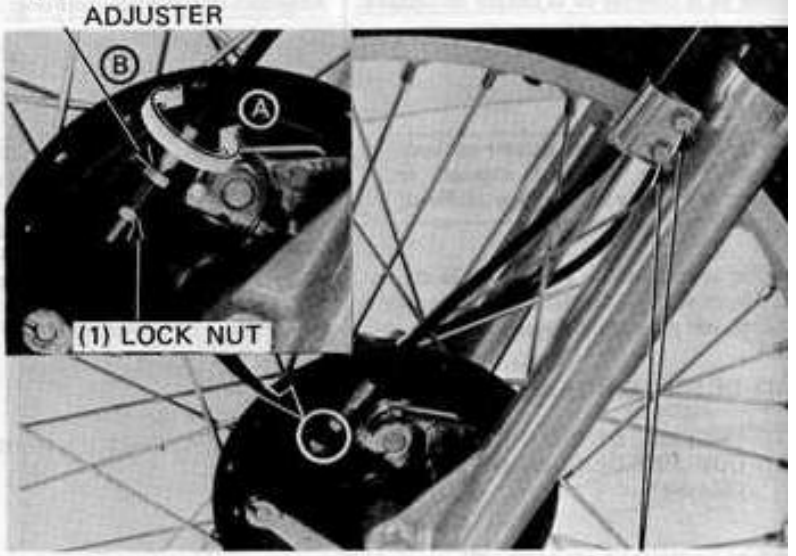
Turn the lower adjuster in direction A to increase free play. Turn the lower adjuster in direction B to decrease free play.

CAUTION

The front brake is equipped with the two leading shoe system. Do not attempt to remove the adjusting rod.

Tighten the lock nut and cable guide bolts.

(2) LOWER ADJUSTER



(3) CABLE GUIDE BOLTS

• REAR BRAKE

Brake pedal height:

NOTE

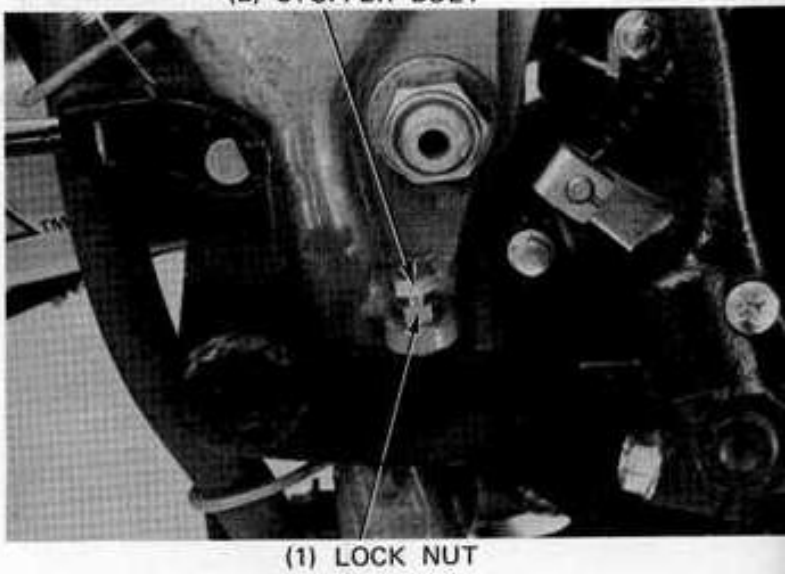
The pedal height can be adjusted for the rider's preference. Adjust the brake pedal free play after pedal height adjustment.

Loosen the lock nut and adjust the brake pedal height by turning the stopper bolt.

Tighten the lock nut securely.

Adjust the brake pedal free play.

(2) STOPPER BOLT

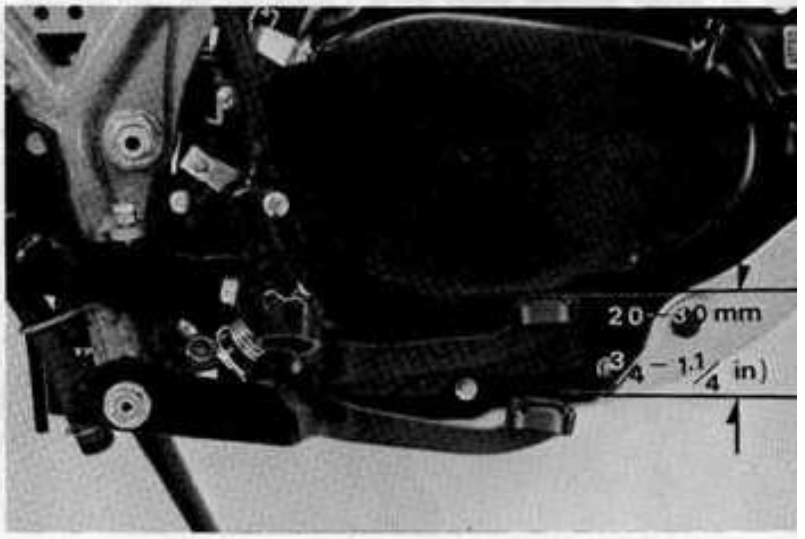


(1) LOCK NUT

Brake pedal free play:

Measure the rear brake pedal free play.

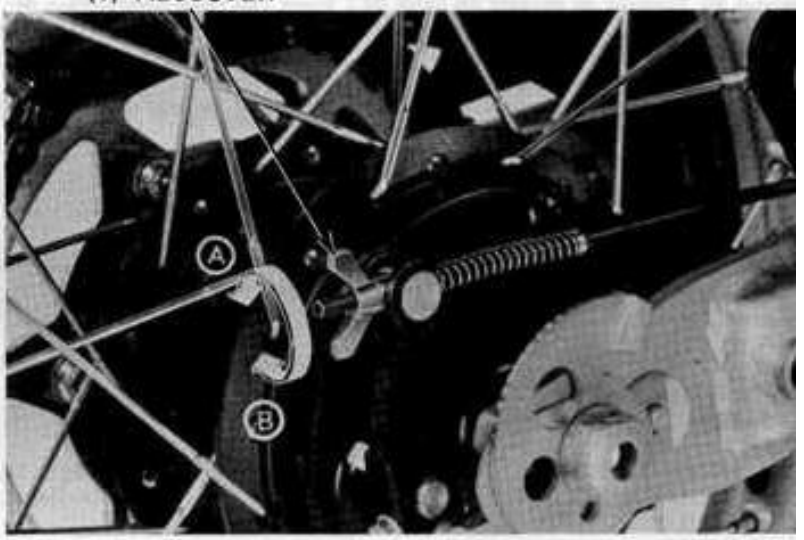
BRAKE PEDAL FREE PLAY:
20–30 mm (3/4 – 1-1/4 in)



(1) ADJUSTER

Adjust the free play by turning the adjuster.

Turn the adjuster in direction A to increase free play. Turn the adjuster in direction B to decrease free play.



• SUSPENSION

Rear:

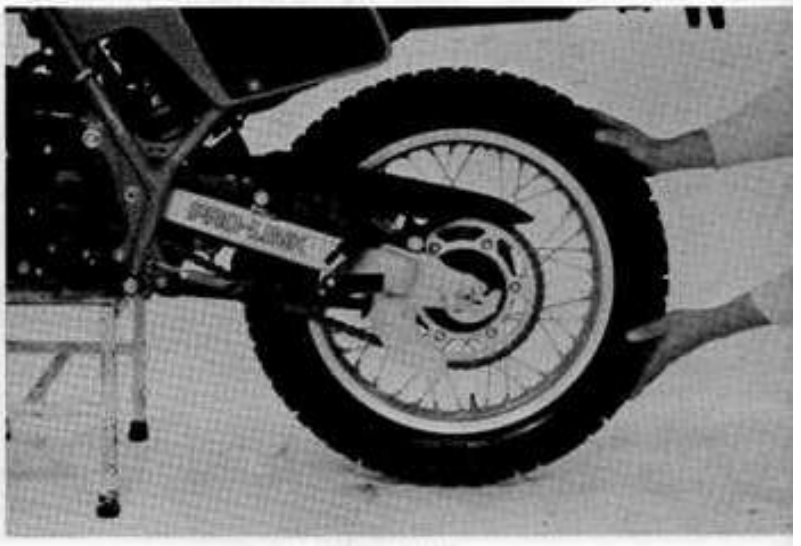
Check the operation of the rear suspension and the entire suspension assembly. Be sure it is securely mounted and not damage or leaking.

Place the motorcycle on a support to raise the rear wheel off the ground.

Move the rear wheel sideways forcefully to check the swingarm bearings for wear.

Forcefully move the rear wheel vertically to check the suspension linkage bushings for wear.

Replace bearings or bushings if excessively worn.
Tighten all bolts and nuts to the specified torque.



• WHEEL/SPOKES

NOTE

Tire pressure should be check when the tires are COLD.

SPECIFICATIONS

Up to 90 kg (200 lbs) load		Front	150 kPa (1.5 kg/cm², 21 psi)
		Rear	150 kPa (1.5 kg/cm², 21 psi)
Up to vehicle capacity load		Front	150 kPa (1.5 kg/cm², 21 psi)
		Rear	175 kPa (1.75 kg/cm², 24 psi)
Vehicle capacity load			150 kg (330 lbs)
Tire Brand	YOKOHAMA	Front	Y969
		Rear	Y969
	INOUE	Front	GP3
		Rear	GP3
Tire size		Front	3.00–21–4PR
		Rear	4.60–17–4PR

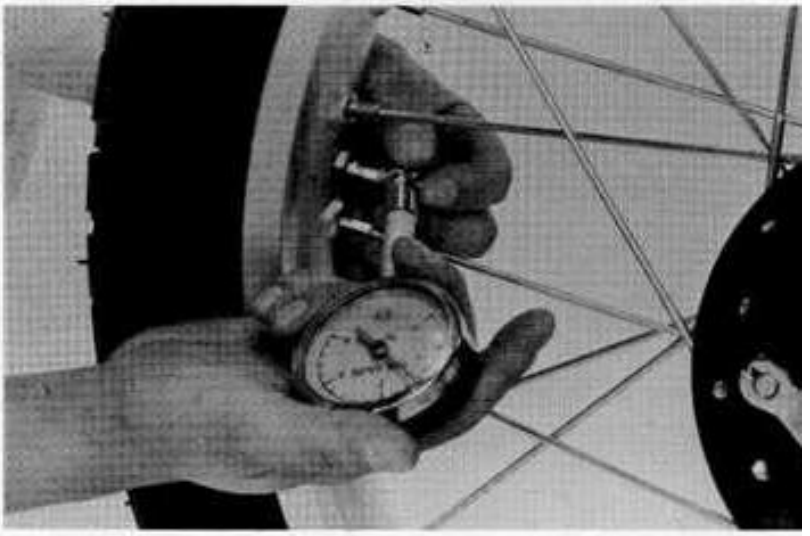
Check the tires for cuts, imbedded nails, or other sharp objects.

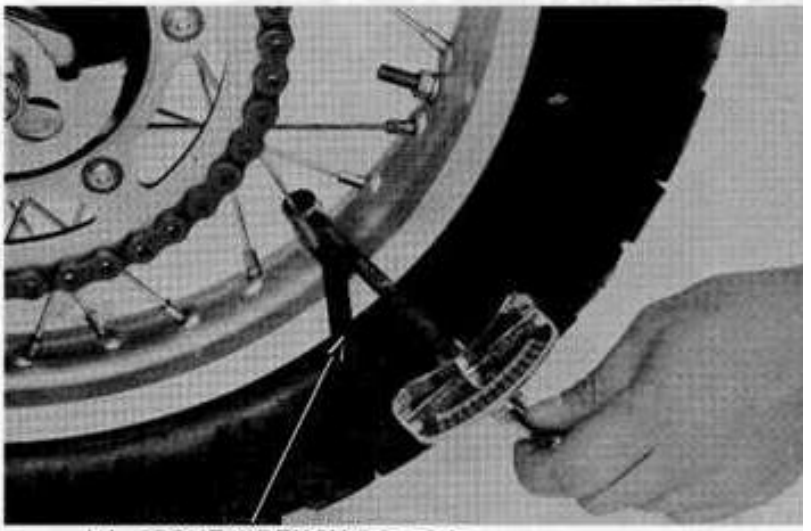
Tighten the wheel spokes periodically. More frequent inspection is necessary when riding off-road.

TORQUE: 25–50 kg-cm (29–57 in-lb)

Check the tightness of the rim lock.

TORQUE: 10–15 N·m (1.0–1.5 kg-m, 7–11 ft-lb)





(1) SPOKE WRENCH 5.8 x 6.1 mm (07701-0020300)

FUEL SYSTEM

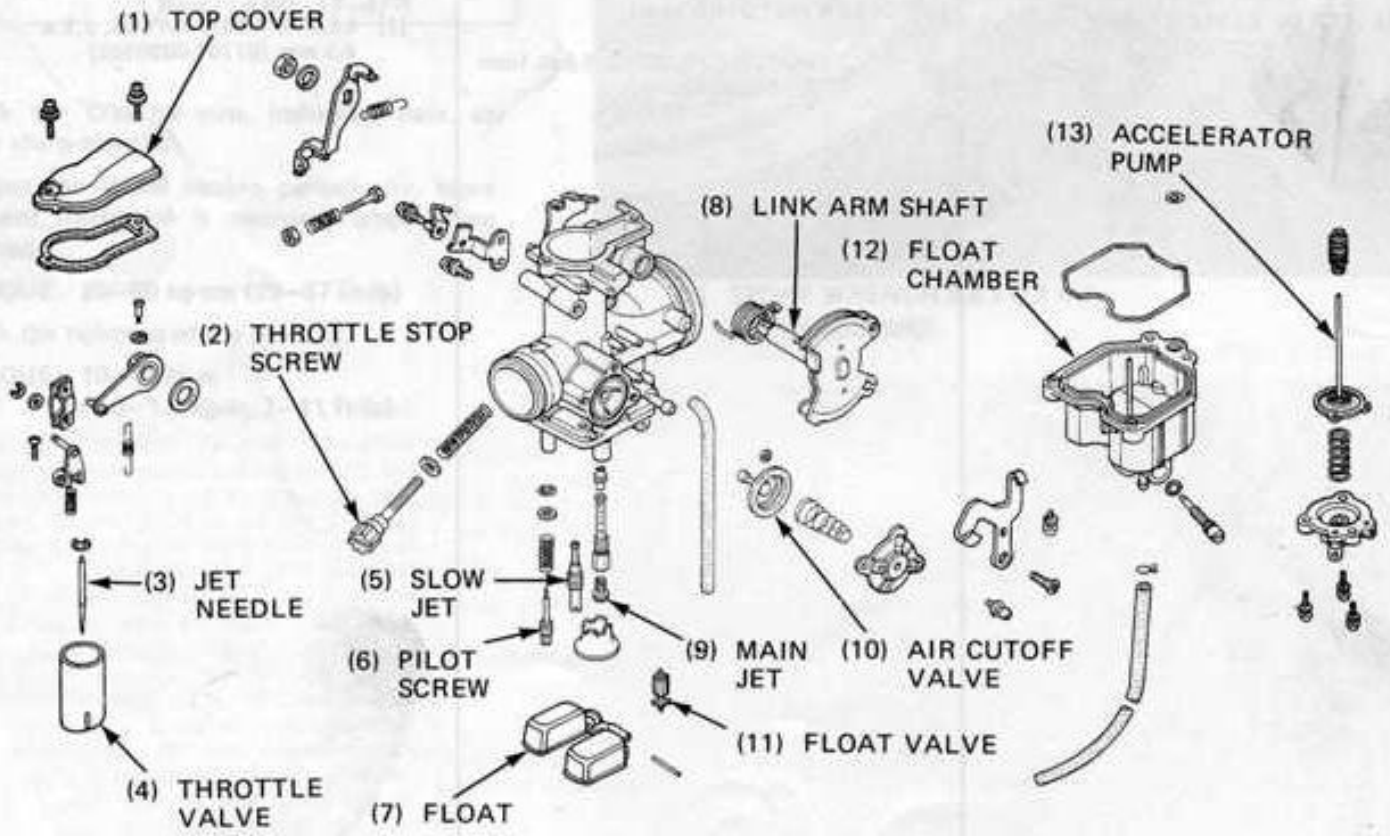
• CARBURETOR SPECIFICATIONS

ITEM	XL500R	XL400R
Venturi diameter	32 mm (1.26 in)	30 mm (1.18 in)
Identification number	PD78A	PD75A
Float level	18.0 mm (0.71 in)	←
Pilot screw opening	2–1/4	←
Idle speed	1,200 ± 100 min^{-1} (rpm)	←
Main jet	#130	#125
Throttle valve diameter	34 mm (1.34 in)	28 mm (1.10 in)
Slow jet	#55	#48
Throttle grip free play	2–6 mm (1/8–1/4 in)	←
Accelerator pump derivery	0.10–0.25 cc/stroke	←
Air cut-off valve operating pressure	350–430 mmHg	←
Jet needle	3rd groove (from top)	←

• CARBURETOR DISASSEMBLY

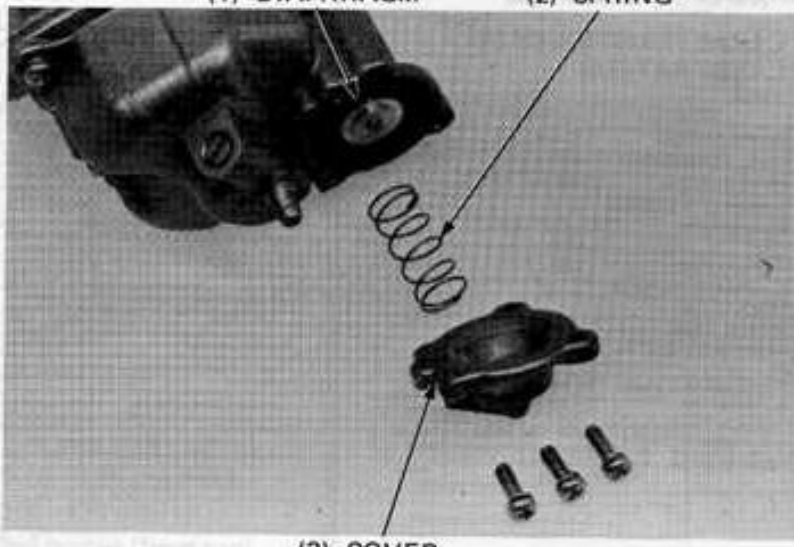
NOTE

Before disassembly, drain the gasoline from the float chamber by loosening the drain screw.



• ACCELERATOR PUMP DISASSEMBLY

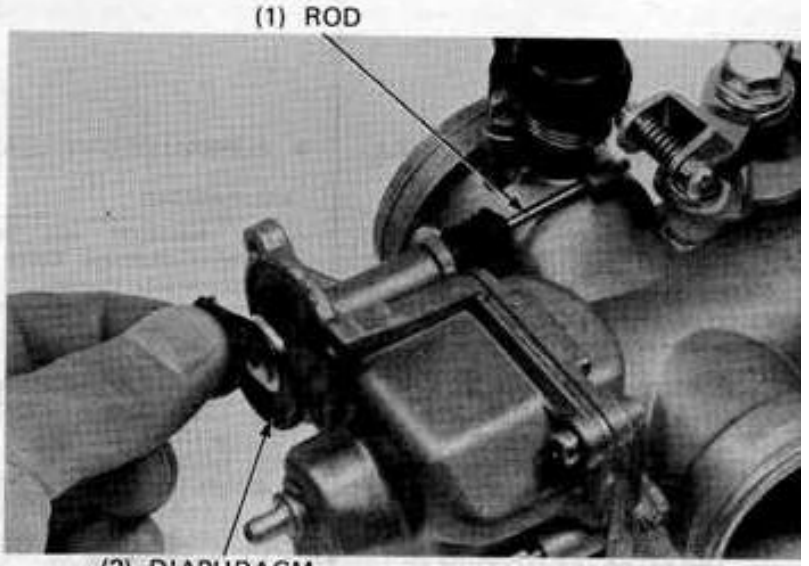
Remove the accelerator pump cover and spring.



Remove the diaphragm.
Inspect the diaphragm for cracks and brittleness.

NOTE

Be sure the rod is not bent.

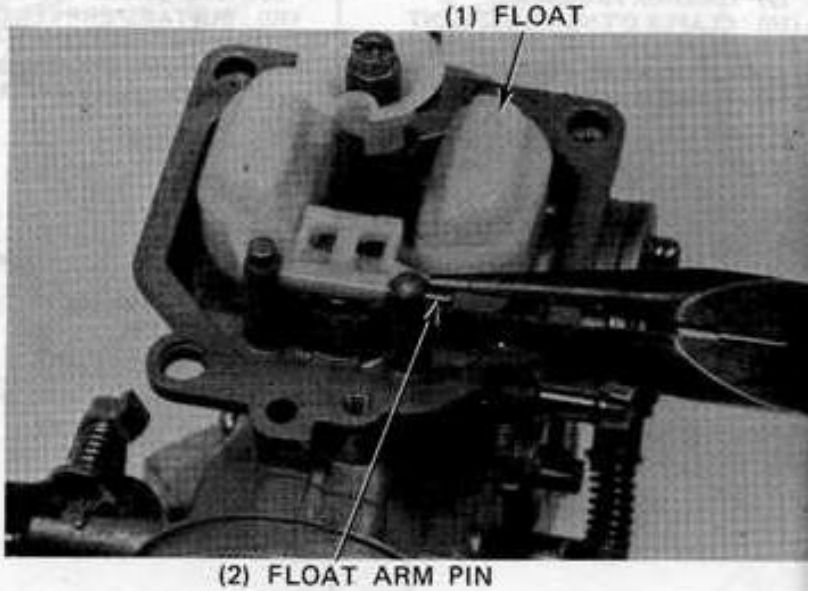


• CARBURETOR JETS REMOVAL

Remove the float chamber body.
Remove the float arm pin using a needle nose pliers.
Remove the float and float valve.

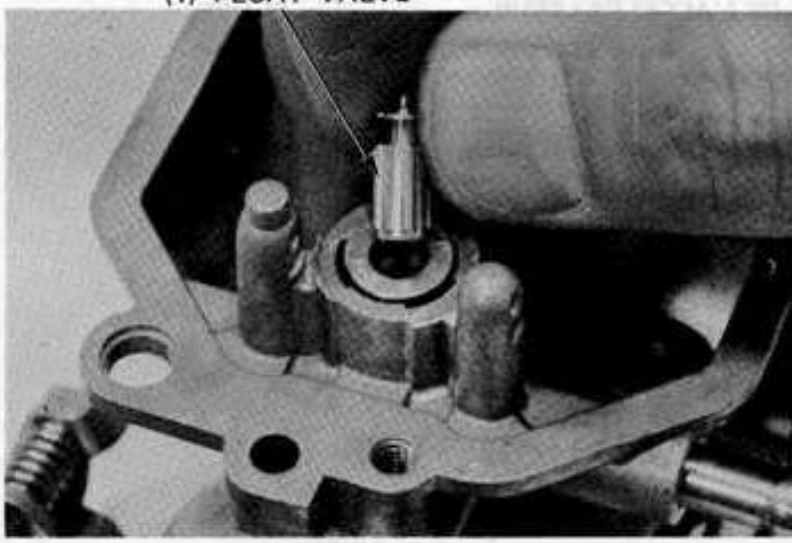
NOTE

The pilot screws are factory pre-set and should not be removed unless the carburetor is overhauled.



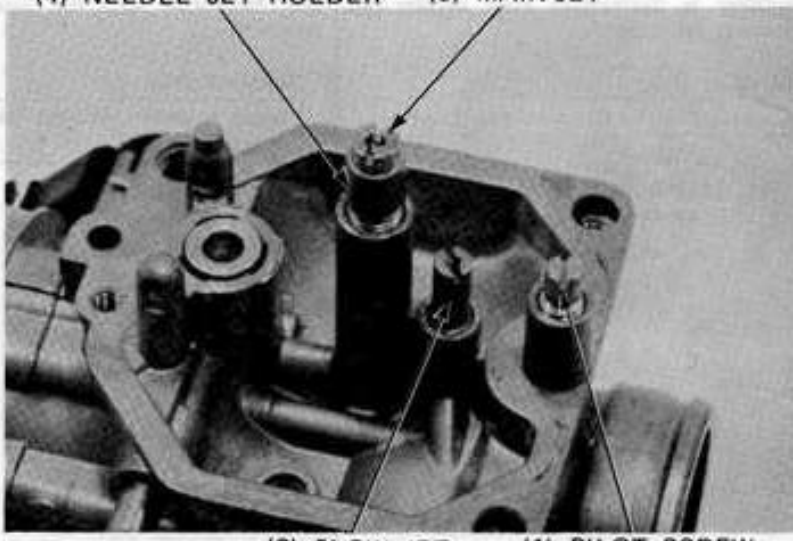
Inspect the float valve and seat for deposits, grooves or other damage.

(1) FLOAT VALVE



Remove the main jet.
Remove the needle jet holder and needle jet from the carburetor body.

(4) NEEDLE JET HOLDER (3) MAIN JET



(2) SLOW JET (1) PILOT SCREW

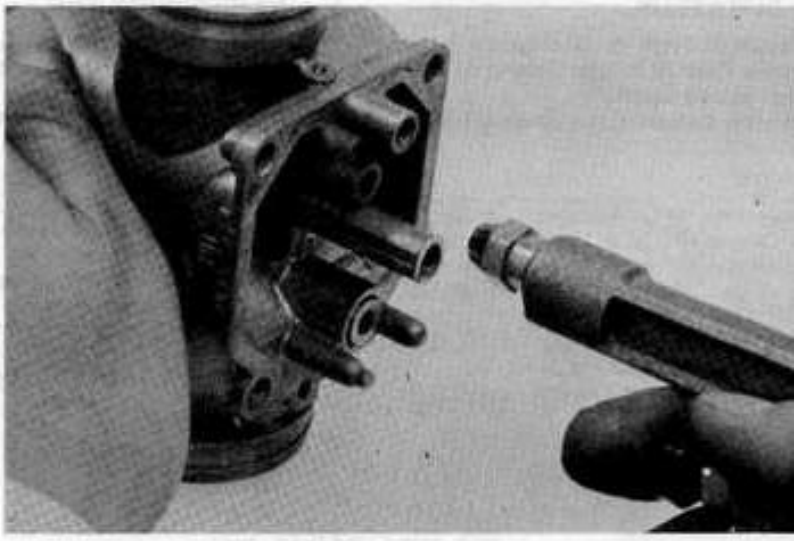
Remove the slow jet.
Turn the pilot screw in and carefully count the number of turns before it seats lightly.
Make a note of this to use as a reference when reinstalling the pilot screw.

CAUTION

Damage to the pilot screw seat will occur if the pilot screw is tightened against the seat.

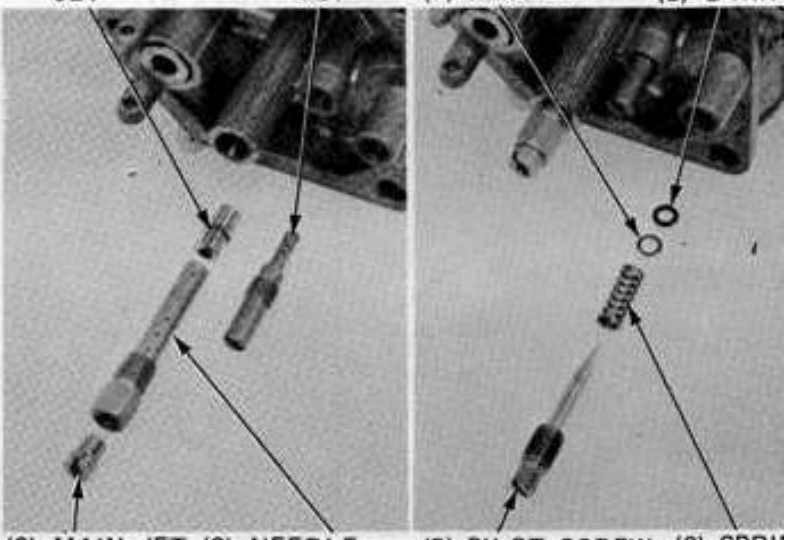
Remove the pilot screw.
Inspect the pilot screw and replace if worn or damaged.

Clean the passages and jets with compressed air.



Install the jets in the carburetor body.

Install the pilot screw and return it to its original position as noted during removal.
Perform pilot screw adjustment if a new pilot screw is installed (page 22-24).

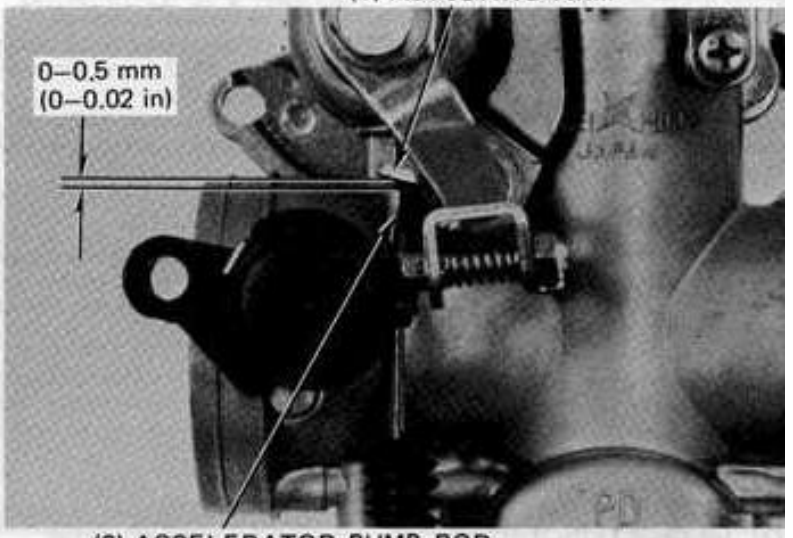


• ACCELERATOR PUMP ADJUSTMENT

Loosen the throttle stop screw, so the throttle valve is closed.
Measure the clearance between the accelerator pump rod and the adjusting arm with the throttle valve closed.

CREARANCE: 0–0.5 mm (0–0.002 in)

Adjust by bending the adjusting arm.
Adjust the idle speed.

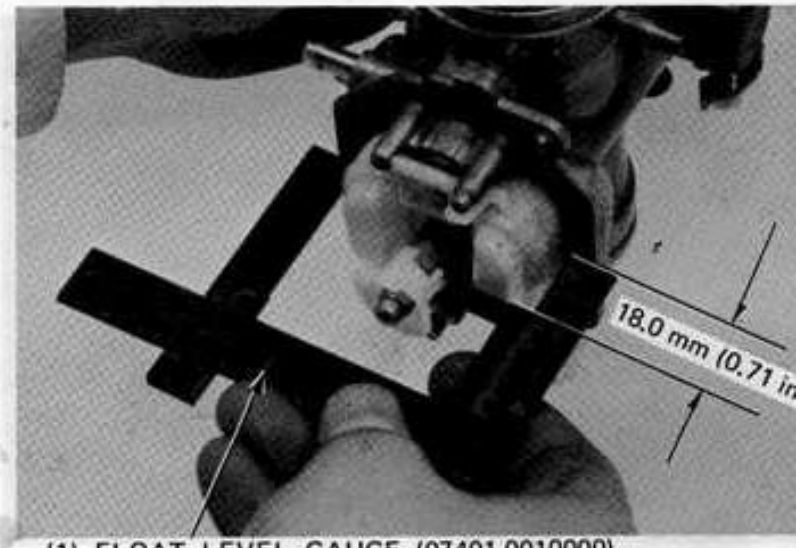


• FLOAT LEVEL INSPECTION

Remove the float chamber.
Measure the float level with the float tip just contacting the float valve and the carburetor inclined 15°–45° from vertical.

FLOAT LEVEL: 18.0 mm (0.71 in)

Replace the float if the float level is not within the specification.



• PILOT SCREW ADJUSTMENT (IDLE DROP PROCEDURE)

NOTE

The pilot screw is factory pre-set. Adjustment is not necessary unless the carburetor is overhauled.

CAUTION

Damage to the pilot screw seat will occur if the pilot screw is tightened against the seat.

1. Turn the pilot screw clockwise until it seats lightly and back it out to the specification. This is an initial setting prior to the final pilot screw adjustment.

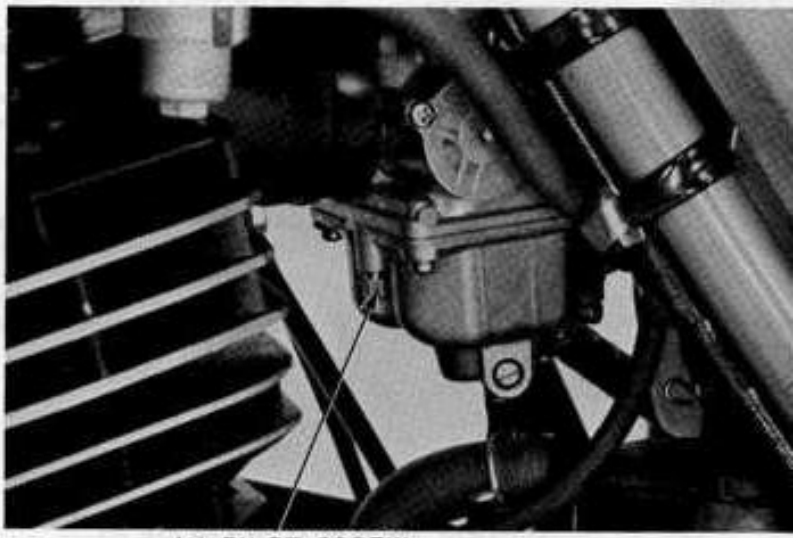
   INITIAL PILOT SCREW OPENING: 2-1/4 Turns

2. Warm the engine up to operating temperature.
   Stop and go driving for ten minutes is sufficient.
3. Stop the engine and connect a tachometer.
4. Start the engine and adjust the idle speed with the throttle stop screw.

   IDLE SPEED: 1,200 ± 100 min^{-1} (rpm)

5. Turn the pilot screw clockwise slowly until the engine stops, and then back it out 2 turns. Start the engine and readjust the idle speed with the throttle stop screw, if necessary.

(1) THROTTLE STOP SCREW



(1) PILOT SCREW

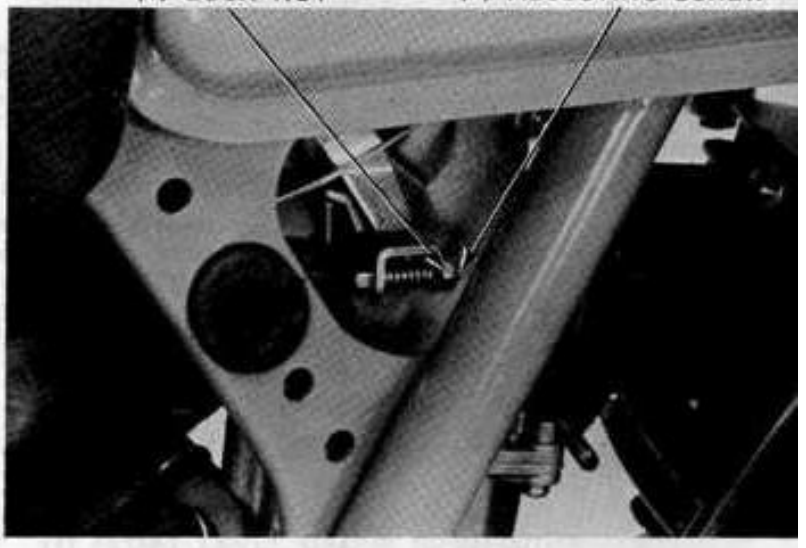
• FAST IDLE SPEED ADJUSTMENT

Check the fast idle speed adjustment with the engine warm, and the choke knob in its detent position.

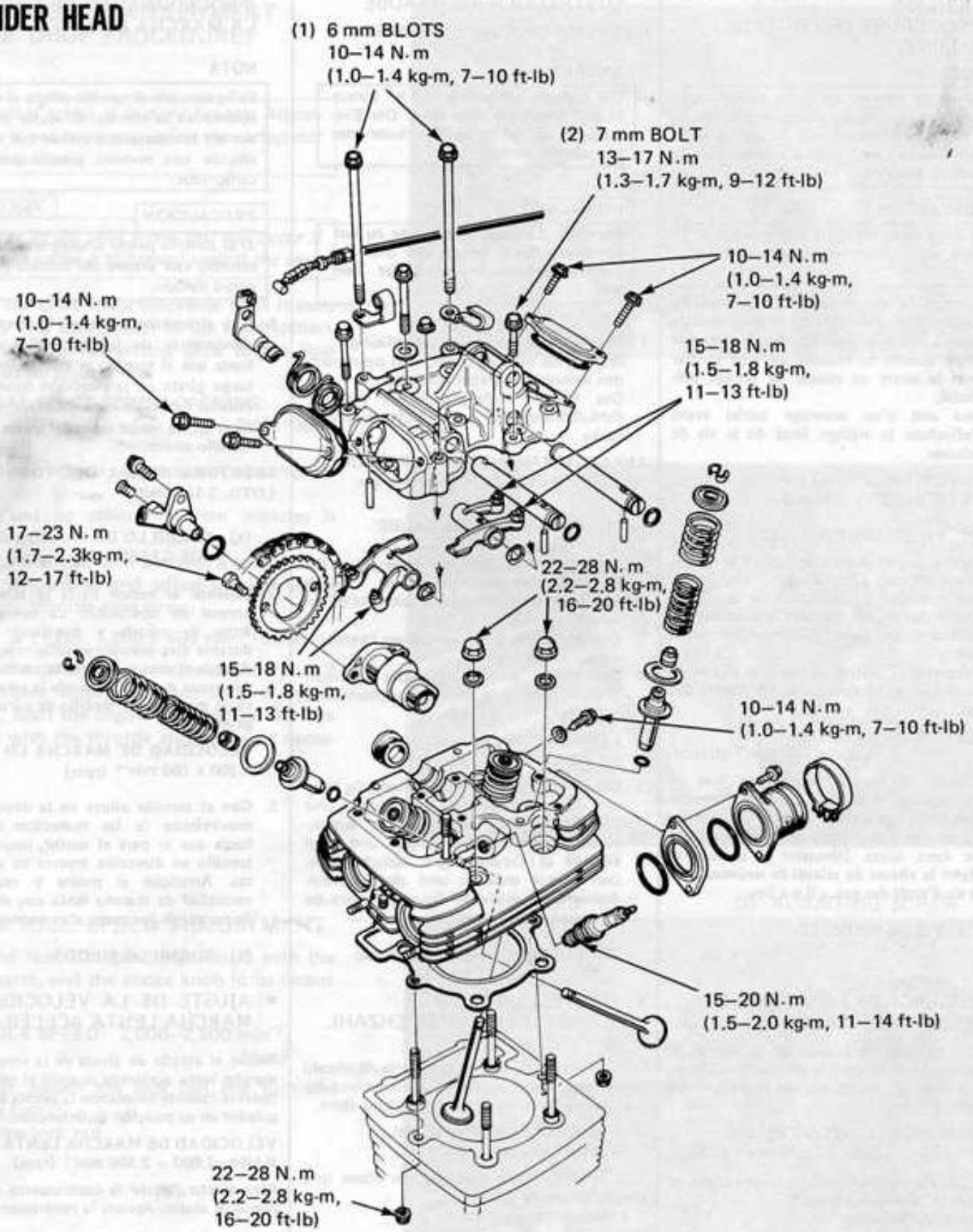
FAST IDLE SPEED: 2,000–2,500 min^{-1} (rpm)

To adjust, loosen the lock nut and turn the adjusting bolt.
Tighten the lock nut.

(1) LOCK NUT (2) ADJUSTING SCREW



CYLINDER HEAD



• CYLINDER HEAD COVER REMOVAL

Remove the engine from the frame (See Section 5).

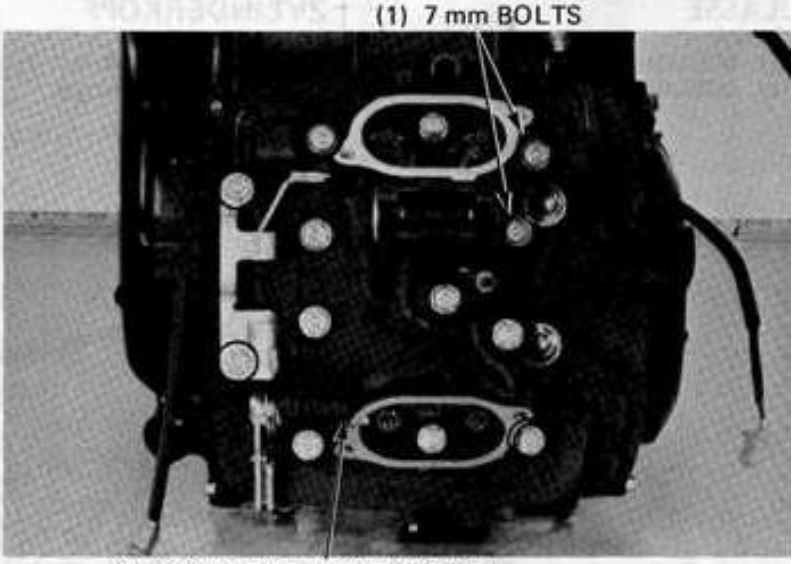
Loosen the decompressor cable lock nut and remove the cable from the holder.

Disconnect the cable from the valve lifter lever.

Remove the valve adjuster covers.

Remove the cylinder head cover bolts nothing the location of the 7mm bolts.

Remove the cylinder head cover.



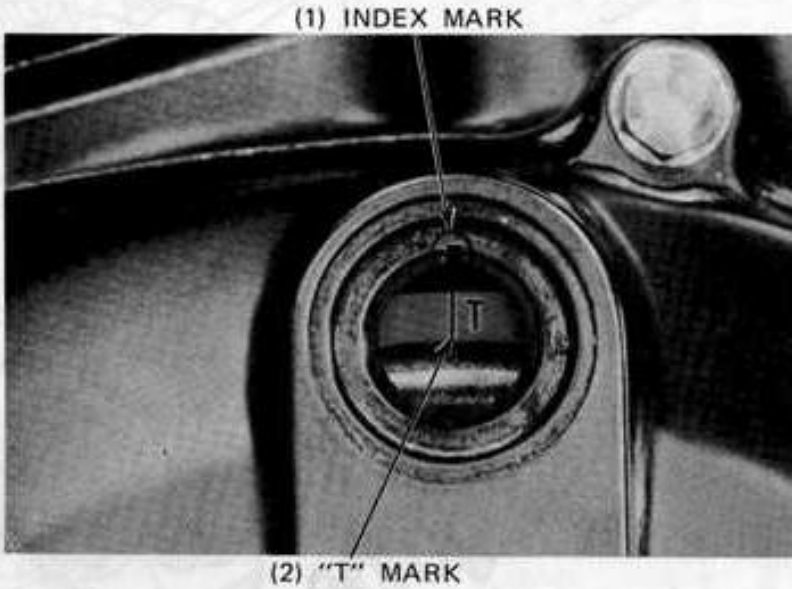
• CAM SPROCKET INSTALLATION

Coat the camshaft journals with molybdenum disulfide grease.
Route the camshaft through the cam chain.
Install the cam sprocket on the camshaft.

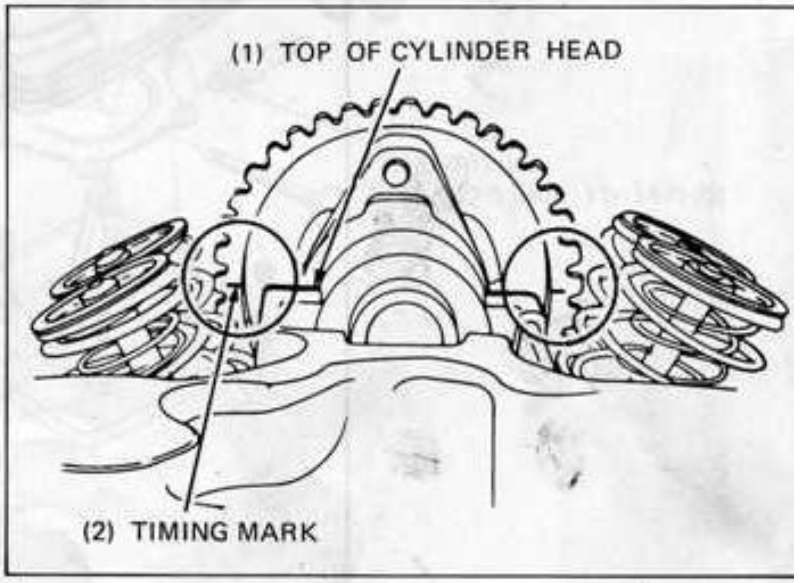
NOTE

Install the cam sprocket so that the timing marks face inside.

Turn the crankshaft and align the "T" mark on the generator rotor with the index mark on the left crankcase cover.



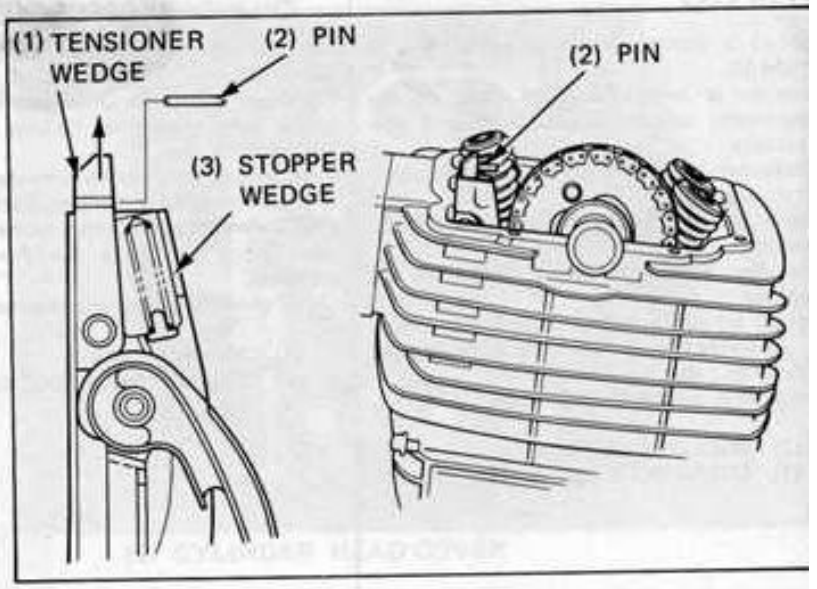
Align the timing marks on the cam sprocket with the top of the cylinder head.



Pull up the tensioner wedge with a priers while pushing in the stopper wedge as shown to loosen the tensioner.

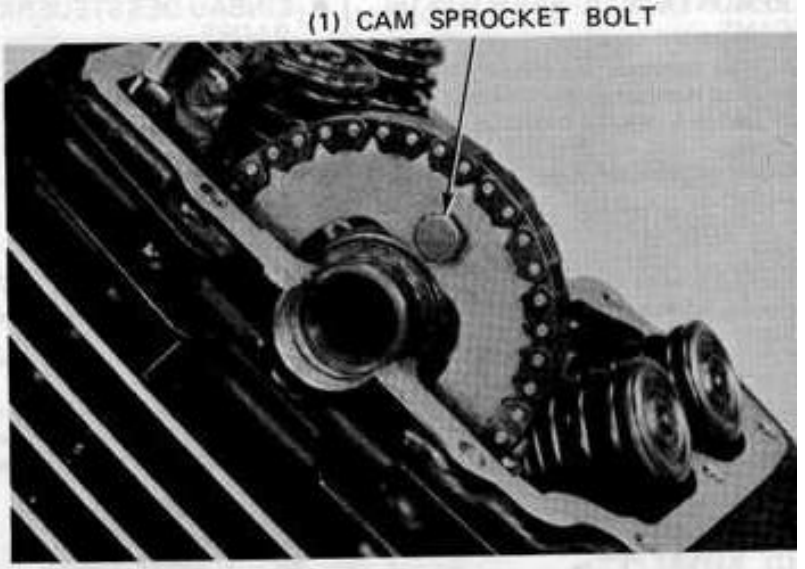
Insert a pin into the hole in the tensioner wedge to hold the tensioner in this position.

Install the cam sprocket on the camshaft.



Tighten the cam sprocket bolts.

TORQUE: 17–23 N.m (1.7–2.3 kg-m, 12–17 ft-lb)

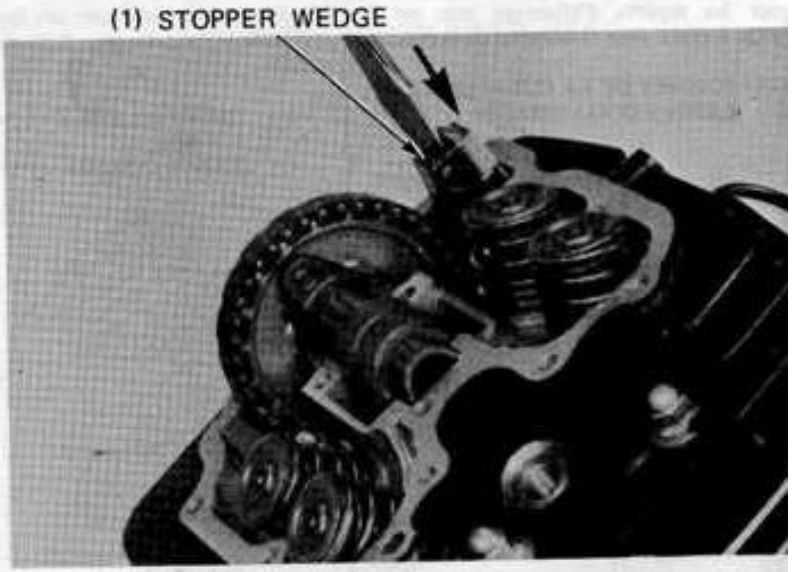


Recheck the valve timing alignment.

- Align the T mark on the flywheel with the index mark on the AC generator cover and make sure that the timing marks on the cam sprocket are flush with the cylinder head upper surface.

NOTE

Turn the camshaft until its cam lobes face bottom and install the cylinder head cover.



Remove the pin from the tensioner wedge.

Recheck tension of the cam chain tensioner by pushing in the stopper wedge.

Pour fresh oil into the cylinder head until the cams are submerged in the oil.

• CYLINDER HEAD COVER INSTALLATION

Apply liquid sealer to the cylinder head mating surfaces of the cylinder head cover (See page 6-21).

Install the cylinder head cover.

Tighten the cylinder head bolts to the specified torque.

TORQUE: 6mm bolt: 10–14 N·m
(1.0–1.4 kg-m, 7–10 ft-lb)
7mm bolt: 13–17 N·m
(1.3–1.7 kg-m, 9–12 ft-lb)

NOTE

- Tighten the head bolts in a crisscross pattern in two or more steps.
- Clean excessive sealent from the head.

Check the valve clearance (page 3-6).

Install the valve adjuster covers.

NOTE

Make sure the O-ring is properly seated in the groove.

Connect the decompression cable.
Adjust the starter decompressor (page 22-14).