

ENDURO



YAMAHA

# DT 400B

OWNER'S MANUAL



500-28199-11

## NOTICE

Yamaha Motor Company and its U.S. subsidiary, Yamaha International Corporation, are confident you will enjoy your new Yamaha to the utmost.

We have made every effort to provide you with a safe, well engineered and constructed product. This Owner's Manual will acquaint you with several features and maintenance procedures concerning your Yamaha. However, if you are unfamiliar with the product, features or procedures outlined in this booklet we strongly urge you to consult your Authorized Yamaha Dealer for additional information. Please review your Owner's Warranty Guide book thoroughly regarding your warranty obligation.

DT400B OWNER'S MANUAL  
1st Printing

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Yamaha International Corporation  
P.O. Box 6600, Buena Park, Cal.

P/N LIT-11625-00-00

## FORWARD

It is our greatest pleasure that you are now a member of the Yamaha DT400B riders.

The Yamaha DT400B, now ready for your use and service, is a motorcycle which has been manufactured by us under the strictest quality control in our Factory.

Naturally, like any other model, proper handling, and daily inspection, adjustment and care are a prerequisite for a successful continuity of the top performance of this model.

This Manual discusses these points to assist you in your best operation and handling of the Yamaha DT400B. Your perusal of the various items in this Manual is sincerely requested.

YAMAHA MOTOR CO., LTD.  
SERVICE DEPARTMENT

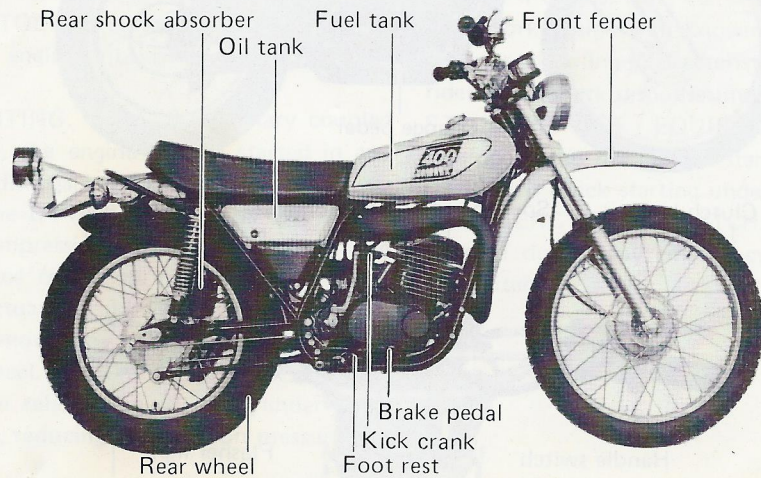


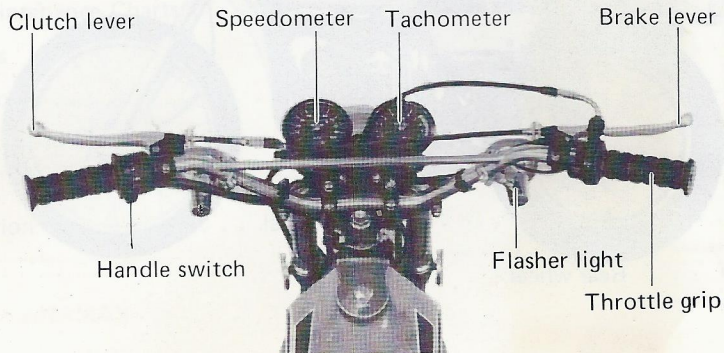
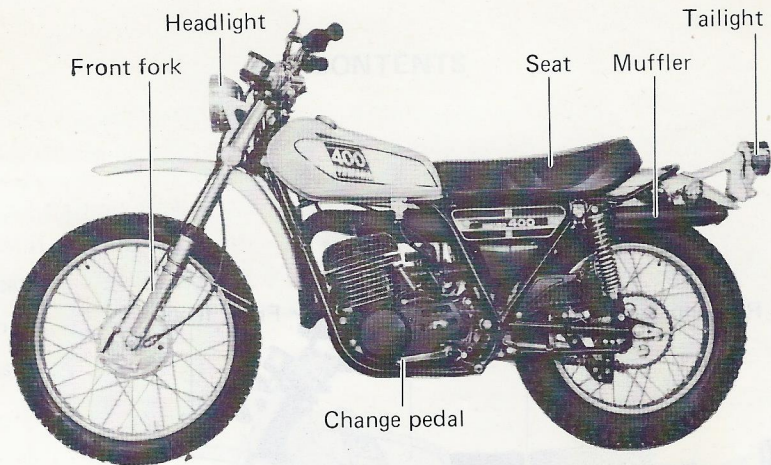
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## Nomenclature





## Features

**TORQUE INDUCTION.** Another new YAMAHA engine debut! The reed valve has been adopted as the induction system for the DT400B. This system, utilizing its unique 7-port construction, ensures excellent engine performance from low to high speed.

**YAMAHA AUTOLUBE.** Yamaha Autolube provides superior engine lubrication which extends service life.

**EASIER STARTING.** With the primary coupled starting system, the engine can be started in any gear simply by disengaging the clutch.

Additionally, the DT400B kick mechanism is linked to a decompression relief valve within the cylinder to reduce compression pressure for easier starting. The actuating cable is connected to a link arm which is moved by the detent arm on the kick ratchet wheel. When the kick crank is moved for starting, the relief valve in the cylinder automatically opens, reducing compression pressure.

**ADJUSTABLE THERMAL SHOCKS.** The shocks are adjustable to five positions. This enables the rider to adjust spring tension to compensate for varying weights, speeds, and road conditions. In addition, the unique thermal phase reservoir slows the rise of shock fluid temperature, improving damping efficiency.

**FRONT FORKS.** The Yamaha DT400B employs a front fork design well known for its strength and superior handling characteristics. They assure the rider of ultimate response under all conditions.

**STARTER JET EQUIPPED CARBURETOR.** Equipped with this unique starter jets, the Yamaha DT400B is quick starting under all conditions.

**EMERGENCY STOP SWITCH.** The engine can be stopped during any emergency by a quick flip of the switch.



**SPEEDOMETER AND TACHOMETER.** A speedometer and tachometer are standard equipment. The individual units are separately mounted for maximum visibility. An additional feature of the speedometer is an odometer which can be reset by tenths to zero for trip or enduro purposes.

**TIRES.** The Yamaha DT400B is fitted with Dunlop Trials Universal tires as standard equipment. This particular tread is one of the most versatile available. It gives maximum trail traction, yet is compatible with road usage at moderate speeds.

**UPSWEPT MUFFLER.** This type design provides for a narrower machine profile and more protection to the rider from engine heat by crossing over the engine and passing through the frame.

**CAPACITOR DISCHARGE IGNITION.** This system provides higher ignition voltage for better ignition performance. Additionally, there are no breaker points to wear thereby reducing efficiency.

## Machine Identification

The frame serial number (a) is located on the right-hand side of the headstock assembly. The first three digits identify the model. This number is followed by a dash. The remaining digits identify the production number of the unit.

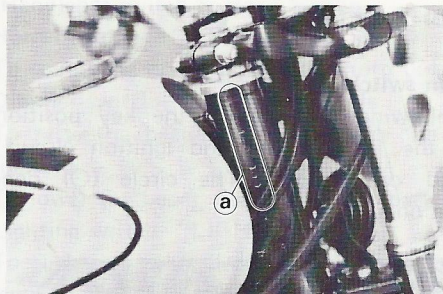
The engine serial number (b) is located on a raised boss at the upper rear, right-hand side of the engine. Engine identification follows the same code as frame identification.

Normally, both serial numbers are identical; however, on occasion they may be two or three numbers off.

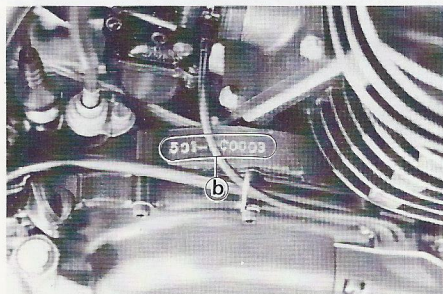
Model	Starting Number
DT 400B	501-000101

### *Note:*

*Always check your registration papers against the actual machine serial numbers. If any discrepancy is found, have it corrected immediately.*



Frame Serial Number

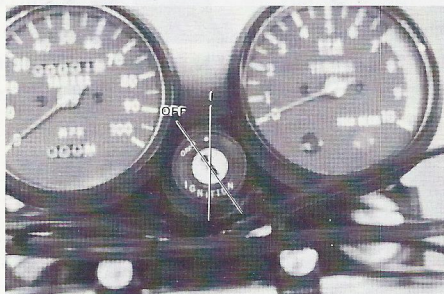


Engine Serial Number

## Control Function

### 1. Main switch

The following chart shows the key position at which the lamps, horn and ignition circuit are switched on or off: (The circle (O) denotes "Switch on")

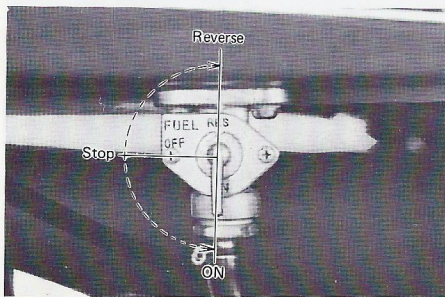


Part Name	Key Position		Instructions
	Off	I	
Ignition Circuit		○	Kick starting
Headlamp		○	Turn on left handlebar switch
Taillamp		○	"
Stoplamp		○	The brake is applied
Meterlamp		○	Turn on left handlebar switch
Horn		○	The horn button is depressed
Flasherlamps		○	Turn on left handlebar switch



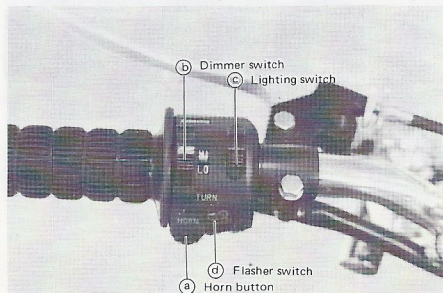
## 2. Fuel petcock

To fill the carburetor float bowl, set the fuel petcock lever to the OPEN position. If you should run low of fuel on the road, turn the lever to RESERVE position. With just over a quart of fuel, remaining you can drive nearly 15 miles (24 km); enough to get you to the nearest service station for refueling. When parking or storing your machine, be sure that the lever is in the STOP position.



## 3. Handlebar switch & Horn button

- (a) Horn button—"HORN"  
To sound the horn, depress the horn button.
- (b) Dimmer switch—"LIGHTS"—R-side  
To raise the headlamp beam, push the switch forward  
To lower the beam, pull the switch back.
- (c) Lighting switch—"LIGHTS"—L-side  
To light the headlamp, taillamp and meter lamps push the headlamp switch forward.
- (d) Flasher switch—"TURN"  
To signal a right turn, push the switch to the right. For left turns, push switch left.

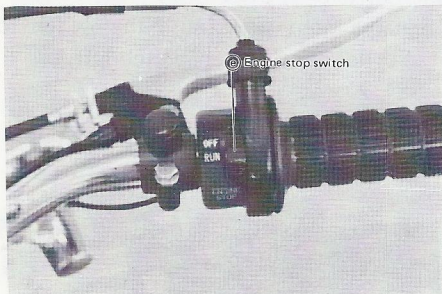


(e) Engine stop switch—"ENGINE STOP"

Make sure that the "Engine stop" switch is on "RUN". The "Engine stop" switch has been equipped to ensure safety in an emergency such as when the motorcycle is upset or when trouble takes place on the throttle system.

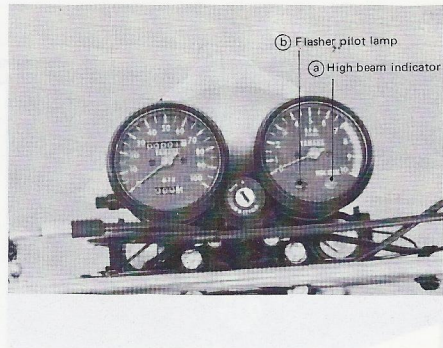
*Caution:*

*The engine will not start when the "Engine stop" switch is turned to "OFF".*



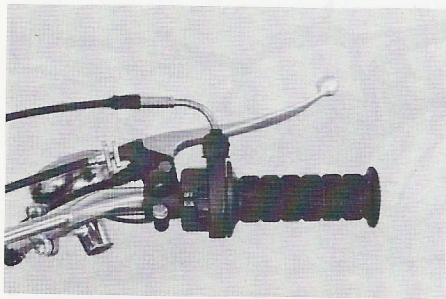
#### 4. Indicator lamps

- (a) High beam indicator—"HIGH BEAM" (BLUE)  
Mounted on the face of the tachometer the high beam indicator glows whenever the head-lamp high beam is in use.
- (b) Flasher pilot lamp (AMBER)  
When flasher switch is on, the pilot lamp flashes.



### 5. Front brake, (Right handlebar lever)

The right handle lever controls the operation of the front brake. The front brake is of the single leading shoe variety and is adjustable at the lever. Adjustment will be explained later.



### 6. Steering lock

Turn the handlebar to the right, insert the ignition key and turn it 45° counter-clockwise then push the key and turn it 45° clockwise. Remove the key after checking to see that the front forks are securely locked. Be sure to lock your forks whenever you park. (see also, #2, Fuel pet cock).





## 7. Rear cushion adjustment

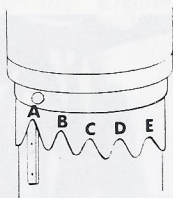
Insert screwdriver as shown and turn it to change the spring rate.

The rear suspension should be adjusted to fit the load, speed and road conditions.

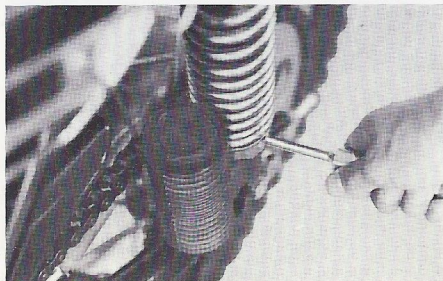
Standard ..... A  
Intermediate        }     (5 positions)  
Stiff ..... E

A.....Soft

E.....Stiff



\* Adjust both right & left cushions to the same position.



## 8. Tripmeter

A tripmeter is built into the speedometer shell. Pull knob out and twist to reset by tenths to desired mileage. Push knob in after.



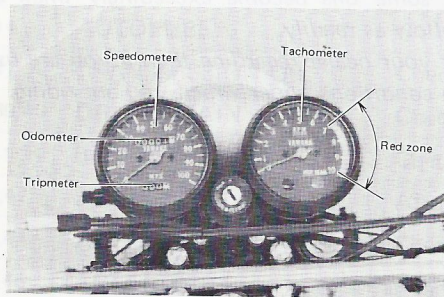
## 9. How to read the tachometer

A tachometer is provided so that the rider can easily maintain engine RPM sufficient to keep the engine within the power curve. For maximum performance accelerate in each gear to 5,000 rpm or at most to 5,500 rpm before shifting. The best range for city driving is 3,500 to 4,000 rpm in lower gears. In this range the engine has ample power and yet is quite docile. Never lug your

engine! (i.e. operate below 3,500 r.p.m.) It is recommended not to use red-zone 7,000 - 10,000 rpm.

*Caution:*

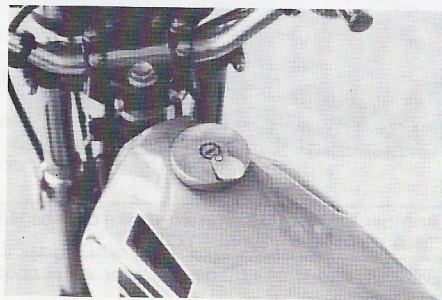
*See "Break-in" section for additional information.*



## Basic Instruction

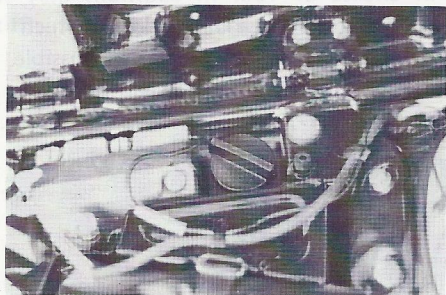
### 1. Gasoline

Use fuel with an actane rating of 90+. Some regular fuels and most mid-range have 90+ octane ratings. Ethyl grade fuels usually have octane ratings in excess of 100. In addition, they have considerable tetra-ethyl lead added which can cause spark plug problems. Whenever possible, use fresh, name brand, gasoline, low lead rating.



## 2. Oil

We recommend that your first choice be YAMA-LUBE 2-CYCLE, which can be purchased from any Yamaha dealer. If for any reason you use another type of oil, choose from the following list, which is in descending order of preference.



- |  |
|--|
| a. Another brand of 30 wt. two-stroke oil labelled "BIA certified for service TC-W". |
| b. A 30 wt. two-stroke oil designed for water cooled engines                         |
| c. A 30 wt., quality, detergent type automotive oil.                                 |

### *Caution:*

*Use item "C" only in emergency when two-stroke oil is not available.*

### *Note:*

*Under extremely cold conditions (+32°F and below), some oils become exceedingly thick and do not flow as readily.*

*Consult your dealer regarding the oil you are using and the conditions under which you are riding.*



## Pre-Operation Check Chart

Page	Item	Remarks
29,30	BRAKES	Check Operation/Adjustment
28,29	CLUTCH	Check Operation/Lever Adjustment
14	AUTOLUBE	Check Oil Level/Top-off as Required
47	TRANSMISSION OIL	Check/Top-off as Required
38,39,40	DRIVE CHAIN	Check Alignment/Adjustment/Lubrication
41	BATTERY	Check Electolyte Level Weekly/Top-off Monthly
46,47	SPARK PLUG	After Break-in—Check Color and Cond'n Weekly
43,44	AUTOLUBE PUMP	Check for Proper Cable Operation
45,46	AIR FILTER	Foam Type—Must be Clean and Damp w/Oil Always
30~36	WHEELS & TIRES	Check Pressure/Runout/Spoke Tightness/Axle Nuts
14,30~36	FITTINGS/FASTENERS	Check All—Tighten as Necessary
—	LIGHTS/SIGNALS	Check Headlight/Tail-Stop Lights/Turn Sigs., etc.

Pre-operation checks should be made each time the machine is used. Such an inspection can be thoroughly accomplished in a very short time; and the added safety it assures is more than worth the time involved.

## Operation

### 1. Before starting

Before you start for a ride you should check several points for safety. In particular:

- a. **Do you have enough fuel?**
- b. **Do you have enough oil?**

If the oil is below the level mark in the glass port, add oil. Make sure that the oil is sufficient for your driving plan by using an oil level gauge. (Refer to basic instruction for type of oil)

- c. **Are your tire pressure correct?**

Incorrect tire pressures can cause an uncomfortable ride, excessive wear and may adversely affect hauling. Tire pressures must be checked each time the machine is used.

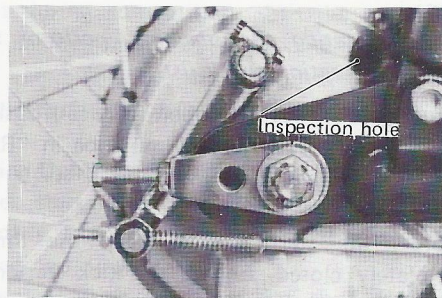
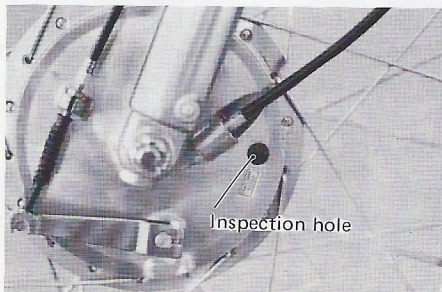


- d. **Do both brakes and the brake light work?**
- e. **Are the lights and horn working in order?**

Check the headlamp, taillamp, meterlamps, and indicating lamps. The few minutes you save by not checking are not worth being stranded without lights!

f. Have you checked the thickness of the brake linings through the inspection hole in the shoe plate for both brake?

If it is less than 0.08 in. (2 mm.), have your dealer replace the shoes.



	Front tire	Rear tire
Normal riding—Off roads	13 lbs/in <sup>2</sup> (0.9 kg/cm <sup>2</sup> )	16 lbs/in <sup>2</sup> (1.1 kg/cm <sup>2</sup> )
Normal riding—On roads	22 lbs/in <sup>2</sup> (1.6 kg/cm <sup>2</sup> )	26 lbs/in <sup>2</sup> (1.8 kg/cm <sup>2</sup> )



## 2 Starting

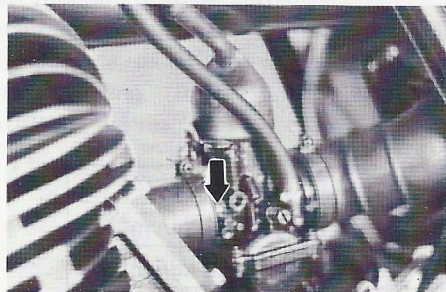
### *Caution:*

*Prior to operating the machine, perform steps listed in preoperation check list.*

Turn fuel petcock lever to open (vertical) position. Check engine stop switch. It must be in "RUN" position to complete ignition circuit.

### **a. Starting Cold**

Depress the starter lever. Keep the throttle completely closed. Engage the kick starter and start the engine.



### **b. Starting with Engine Warm**

Do not engage starter lever. Open throttle slightly (1/4 turn). Engage the kick starter and start the engine.

### **c. Warm-up**

Run the engine at idle or between idle and 1/8th throttle using the starter lever as required until the engine is warm.

This procedure normally takes 1 to 2 minutes. To check, see if it takes 1 to 2 minutes. To check, see if the engine responds normally to throttle with starter lever off.

### *Caution:*

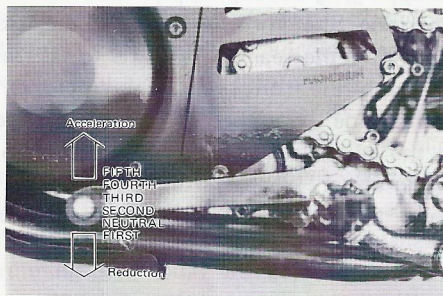
*See "Break-in Section" prior to operating engine for first time.*

### *Note:*

*The kick mechanism is of the primary type. Therefore, the engine may be started in any gear provided clutch is disengaged. The engine may be started in neutral with clutch engaged or disengaged.*

### 3. Shifting

A 5-speed transmission is employed. Low gear is at the bottom of the shift pattern; high gear at the top of the shift pattern; neutral is located half-way between first and second positions.



The shift mechanism is of the ratcheting type common to most motorcycles. Allow the lever to return to its "at rest" position prior to selecting another gear. Neutral is selected by pulling up or depressing the shift lever halfway between first and second gears.

With the engine running in the neutral position, disengage the clutch (pull in clutch lever), press down on the shift lever until low gear is engaged, remove foot from shift lever, increase engine speed

slightly, slowly release clutch lever while advancing throttle. Repeat procedure for remaining gears.

Except during competition, shift the transmission when engine speed is approximately 4,000 to 5,000 rpm. This can be interpreted as approximately one-half throttle. (See "Break-In").

#### a. Going Uphill

When starting to climb a gentle grade, open the throttle little by little to avoid losing engine speed and power.

When climbing a steep grade, shift down from THIRD to SECOND or from SECOND to FIRST as required.

#### b. Going Downhill

On a long down grade or sharp descent, don't rely on the brakes alone, but use the engine compression as a brake: shift into THIRD or SECOND as required by the grade and close the throttle.

#### Caution:

*Never attempt to turn off the ignition switch on a long hill.*

*This may cause the spark plug to foul, in addition to being unsafe.*

#### 4. Off-road Riding

When you ride your motorcycle over rough land, safety parts may break or fall off due to shocks from the ground or due to accidents such as falling, and breakage or loss of parts may result. It is advisable to remove all safety parts before you start riding.

Parts to be removed: Headlamp, taillamp, speedometer, tachometer.

#### Caution on Riding over Paved Roads at High Speeds:

The DT400B is equipped with tires having a block pattern. As a result, the area where the tire contacts the ground is smaller compared with other types of tires. Therefore, take care to avoid slipping your motorcycle when you are cornering at high speeds and at sharp angles.

#### 5. Stopping

There are several ways to stop.

Pulling in the clutch lever and twisting the throttle grip in the closed direction will permit you to gradually glide to a stop. Downshifting through the gears, using the drag of the engine to slow

down is another. However, the best method, and the one most universally used, is to use both engine compression (downshifting through the gears as the machine slows) and the front and rear brakes.

When stopping, gradually apply the rear brake while twisting the throttle grip in the closed direction. After the rear brake starts to take hold, gradually apply the front brake.

As the machine continues to slow shift down through the gears using engine compression to aid the slowing effect. When shifting down, watch the tachometer to see that the engine does not over-rev.

#### Note:

*During periods of Inclement weather, such as snow, rain, sleet, or ice, or on poor road surfaces where traction is minimal, or in a sharp corner, IT IS NOT ADVISABLE TO FIRMLY APPLY THE FRONT BRAKE. While it is true that the front brake supplies the greater portion of braking power, it is also true that stability can be upset very easily if it is used incautiously under the above conditions.*



## 6. Cruising

A frequently asked question is "What rpm should I cruise at?"

The BREAK-IN section provides limitations when the motorcycle is new, but once the engine has been broken in, then we suggest that you follow these guide lines. For sustained load and throttle conditions, such as those encountered on open highways, cruise at 3/4 throttle of at 3/4 of the rpm "red line", whichever comes first. Always bear in mind though, the maximum allowable speed limit for the area through which you are riding. This is a recommendation, not a "hard and fast" rule. Any modification or personalization of the running gear could possibly change the operating range most comfortable and most efficient for the engine.

## 7. Break-in

THERE IS NEVER A MORE IMPORTANT PERIOD. IN THE LIFE OF YOUR YAMAHA THAN THE PERIOD BETWEEN ZERO AND FIVE HUNDRED MILES. For this reason we ask that you carefully read the following material.

Because the engine is brand new, you must not put an excessive load on it during the first several hours of running. You could look at it in this manner: During the first 500 miles the various parts in the engine wear and polish themselves to the correct operating clearances. During this period prolonged full throttle operation, or any condition which might result in excessive head and cylinder temperatures, must be avoided. However, momentary full throttle operation, under load, (2-3 seconds maximum) does not harm the engine. Each full throttle acceleration sequence should be followed with a substantial rest period for the engine by cruising at lower rpm's so the engine can rid itself of the temporary build up of heat. The method for breaking in your Yamaha is quite simple. (See following page.)

### *Note:*

*Please read your Owner's Warranty Guidebook thoroughly. It explains your obligation during the break-in period.*

### Break-in (Continued)

a. 0 to 100 miles:

Avoid operation above 3,000 rpm.

Allow a cooling of period of 5 to 10 minutes after every hour of operation.

Vary the speed of the motorcycle from time to time. Do not operate it at one, set, throttle position.

b. 100 to 250 miles:

Avoid prolonged operation above 4,000 rpm.

Allow the motorcycle to rev freely through the gears but do not use full throttle at any time.

c. 250 to 500 miles:

Avoid prolonged full throttle operation.

Avoid cruising speeds in excess of 5,000 rpm.

d. 500 miles and beyond:

Avoid prolonged full throttle operation.

Avoid engine speeds in excess of 6,000 rpm.

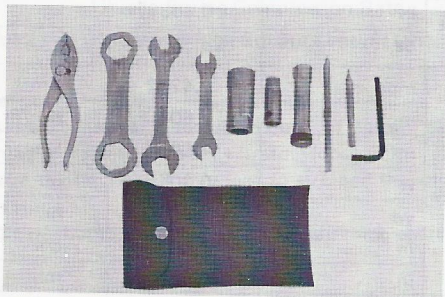
Vary speeds occasionally.

*Note:*

*Please refer to your Owner's Warranty Guide book and the Maintenance and Lubrication charts for information regarding Initial Service Checks.*

## Servicing

The servicing information included in this manual is intended to provide you, the owner, with the necessary information to provide a means of doing your own preventive maintenance and minor repairs.



The tools provided in the owner's tool kit are sufficient for this purpose, except that a torque wrench is also necessary to properly tighten nuts and bolts. (See torque chart, P.23).

Should you desire additional service information on your DT400B a copy of Service Manual can be purchased from any Authorized YAMAHA Dealer.



## CONVERSION TABLES

Metric to Inch System			
	Known	Multiplier (Rounded Off)	Result
Torque	kg-m	7.235	ft-lbs
	kg-m	86.82	in-lbs
	kg-cm	.0724	ft-lbs
	kg-cm	.8682	in-lbs
Weight	kg	2.205	lb
	g	.03527	oz
Flow/ Distance	Km/ℓ	2.352	mpg
	Km/hr	0.6214	mph
	Km	0.6214	mi
	m	3.281	ft
	m	1.094	yd
	cm	0.3937	in.
	mm	0.03937	in.
Volume/ Capacity	cc (cm <sup>3</sup> )	0.03381	oz (U.S. liq.)
	cc (cm <sup>3</sup> )	0.06102	cu in.
	ℓ (Liter)	2.1134	pt (U.S. liq.)
	ℓ (Liter)	1.097	qt (U.S. liq.)
	ℓ (Liter)	0.2642	gal (U.S. liq.)
	kg/mm	56.007	lb/in.
	kg/cm <sup>2</sup>	14.2234	psi (lb/in. <sup>2</sup> )
	Centigrade (°C)	9/5 (°C) + 32	Fahrenheit (°F)

Inch to Metric System			
	Known	Multiplier (Rounded Off)	Result
Torque	ft-lbs	0.13826	kg-m
	in-lbs	0.01152	kg-m
	ft-lbs	13.825	kg-m
	in-lbs	1.1518	kg-m
Weight	lb	0.4536	kg
	oz	28.35	g
Flow/ Distance	mpg	0.4252	Km/ℓ
	mph	1.600	Km/hr
	mi	1.609	Km
	ft	0.3048	m
	yd	0.9144	m
	in.	2.54	cm
	in.	25.4	mm
Volume/ Capacity	oz (U.S. liq.)	29.57	cc (cm <sup>3</sup> )
	cu in.	16.387	cc (cm <sup>3</sup> )
	pt (U.S. liq.)	0.4732	ℓ (Liter)
	qt (U.S. liq.)	0.9463	ℓ (Liter)
	gal (U.S. liq.)	3.7853	ℓ (Liter)
	lb/in.	0.017855	kg/mm
	psi (lb/in. <sup>2</sup> )	0.07031	kg/cm <sup>2</sup>
	Fahrenheit (°F)	5/9 (°F -32)	Centigrade (°C)

Definition of Terms:

- m-kg = Meter Kilograms: Usually torque.
- kg = Kilogram(s): \*1,000 grams: Weight
- km = Kilometer(s): Distance
- l = Liter(s): Liquid quantity
- km/l = Kilometer(s) Per Liter: Mileage.
- cc = Cubic Centimeter(s) (cm<sup>3</sup>): Volume or Capacity.
- kg/mm = Kilogram(s) Per Millimeter: Usually Spring Compression Rate.
- kg/cm<sup>2</sup> = Kilogram(s) Per Square Centimeter: Pressure.

STUD SIZE	TORQUE
6 mm	90 in.-lbs
7 mm	135 in.-lbs
8 mm	180 in.-lbs
10 mm	300-350 in.-lbs
12 mm	350-400 in.-lbs
14 mm	400-450 in.-lbs
17 mm	500-600 in.-lbs
Spark Plugs	230-250 in.-lbs

Torque

All fittings require a minimal amount of torque during tightening to keep them from vibrating loose.

Excessive tightening will only lead to stripped threads and broken studs.

As a rule of thumb, use the following tightening chart:

## Lubrication Intervals

Page	Item	Remarks	Type	Initial (mile)				Thereafter Every (mile)		
				250	500	1000	2000	1000	2000	4000
47	Transmission Oil Change	Warm engine before draining	#1	250	500	1000	2000	1000	2000	4000
				CHK	○	○		CHK	○	
38	Drive Chain	Lube/Adjust as req'd	#2	See Notes						
38~40	Drive Chain	Remove/clean/lube/adjust	#2			○		○		
—	Control & Meter Cables	All-apply thoroughly	#3			○	○		○	
43	Throttle Grip & Housing	Light Application	#4				○		○	
Dealer	Tach & Speedo Gear Hsgs.	Light Application	#4				○			○
—	Rear Arm Pivot Shaft	Zerk-Apply until shows	#5			○		○		
—	Brake Pedal Shaft	Light Application	#4			○			○	
—	Change Pedal Shaft	Light Application	#4			○			○	
—	Stand Shaft Pivot(s)	Light Application	#4			○			○	
Dealer	Front Forks	Drain comp.	#8		CHK		○	CHK	○	
Dealer	Steering Ball Races	Inspect thoroughly/repack	#6				○		CHK	○
Dealer	Point Cam Lubr. Wick	Very light application	#7			○				○
Dealer	Wheel Bearings	Do not over-pack	#6				○	CHK	○	

See Service Notes on following page.

Be sure to check the above points before long-distance touring.



## Recommended Lubricants

- #1. Use Yamalube 4-cycle oil, or SAE 10W-30 type "SE" motor oil.
- #2. Use SAE 10W-30 type "SE" motor oil. (If desired, specialty type lubricants of quality manufacture may be used.)  
Note: Drive chain must be lubricated every 200-250 miles. If unit is subject to extremely hard usage, chain must be inspected constantly and serviced as required.
- #3. Use SAE 10W-30 type "SE" motor oil (If desired, or at ambient temperatures below 30°F., a graphite base "dry" lubricant of quality manufacture may be used.)
- #4. Light duty: Lithium soap base (white) grease. Heavy duty: Standard lube grease (Do not use lube grease on throttle/throttle housing.)
- #5. Use standard lube grease—smooth, not coarse.
- #6. Medium-weight wheel bearing rease of quality manufacture—preferably waterproof.
- #7. Light-weight machine oil.
- #8. Use Yamaha fork oil.


## Periodic Maintenance Intervals

Page	Item	Remarks	Initial (mile)				Thereafter Every(mile)	
			250	500	1000	2000	1000	2000
29~33	Brake System (complete)	Check/Adj. as req'd. repair as req'd.		○	○		○	
28~29	Clutch	Check/Adjust as required		○	○		○	
40	Battery	Top-off/Chk. spec. gravity monthly, or	○		○		○	
46,47	Spark Plug(s)	Inspect/Clean or replace as req'd	○	○	○		○	
30~36	Wheels & Tires	Pressure/Spoke—Tension/runout	○	○	○		○	
22	Fittings & Fasteners	Tighten before each trip and/or	○	○	○		○	
38~40	Drive Chain	Tension/Alignment #1	○	○	○		○	
14	Transmission Oil Level Check	Unit level/Engine warm	○	○	○		○	
45,46	Air Filter	Wet type—Clean/replace as req'd #2			○	○	○	
7	Fuel Petcock(s)	Clean/flush tank as req'd	○		○		○	
Dealer	Ignition Timing	Adjust/clean or replace pts. as req'd		○	○	○		○
42	Carburetor Adjustment	Check operation/fittings		○	○	○		○
Dealer	Carburetor Overhaul	Clean/repair as req'd./refit/adjust						4000
Dealer	Cylinder Compression	Preventive Maintenance Check		○	○	○		○
Dealer	Decarbonize Engine	Includes Exhaust System			○			○

## Service Notes:

- #1. **DRIVE CHAIN:** In addition to tension and alignment, chain must be lubricated every 200 - 250 miles. If unit is subjected to extremely hard usage, such as racing or dirt riding, chain must be checked constantly. See "Lubrication Intervals" for additional details.
- #2. **AIR FILTER:** Must be clamp at all times to function properly. Remove and clean filter at least once per month or every 1,000 miles; more often if possible.  
Note: If unit is subject to extremely hard usage, such as dirt riding, etc., clean and oil filter daily.

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### Lubrication and Maintenance Chart

These charts should be considered strictly as a guide to general lubrication and maintenance periods. You must take into consideration that weather, terrain, geographical locations, and a variety of individual uses all tend to demand that each owner alter this time schedule to match his environment. For example, if the motorcycle is continually operated in an area of high humidity,

then all parts must be lubricated much more frequently than shown on the chart to avoid the ravages of water on metal parts. If you are in doubt as to how closely you can follow these time recommendations, check with the YAMAHA dealer in your area.



## Servicing Procedures

### 1. Clutch cable

The clutch cable requires periodic lubrication to prevent the cable strands from rusting or hanging up in the casing. First, disconnect the cable from the clutch lever by screwing the adjuster all the way into the lever holder. This will provide enough free play in the cable for you to slip the cable out of the lever holder through the slot in the lock nut, adjuster and holder. Hold the cable upright and allow several drops of lubricant to flow down the cable. Hold the cable upright for several minutes to permit complete lubrication.

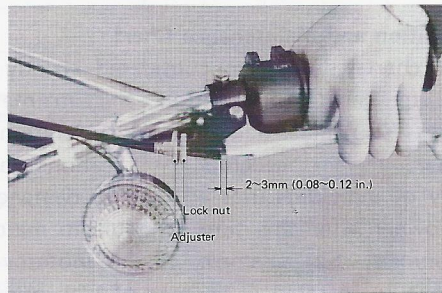
If the cable needs to be replaced, then perform the steps above to disconnect the cable at the lever. Next, disconnect the cable at the engine.

### 2. Clutch Adjustment

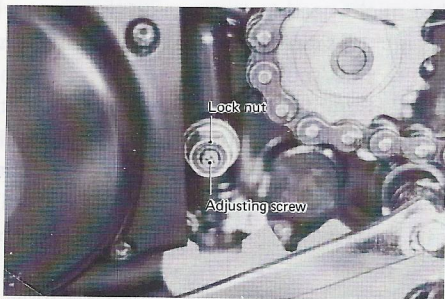
The DT400B has two clutch cable length adjusters and a clutch mechanism adjuster. Cable length adjusters are used to take up slack from cable stretch and to provide sufficient freeplay for proper clutch operation under various operating conditions. The clutch mechanism adjuster is used to provide

the correct amount of clutch "throw" for proper disengagement. Normally, once the mechanism is properly adjusted, the only adjustment required is maintenance of freeplay at the clutch handle lever.

- a. Freeplay adjustment: Loosen either the handle lever adjuster locknut or the cable inline length adjuster locknut which is located about 10 inches from the handle lever. Next, turn the length adjuster eighter in or out until proper lever freeplay is achieved (see illustration).



- b. Mechanism adjustment: Remove rear, left-hand crankcase cover. Note position of clutch axle lever under engine. Turn either cable length adjuster in or out until lever is positioned slightly behind main axle center line. Next, loosen adjust screw lock nut and back eccentric adjust screw out until axle lever shaft contacts clutch push rod inside engine. Turn adjust screw in approximately 1/8 turn and tighten lock nut. Readjust handle lever freeplay as required.



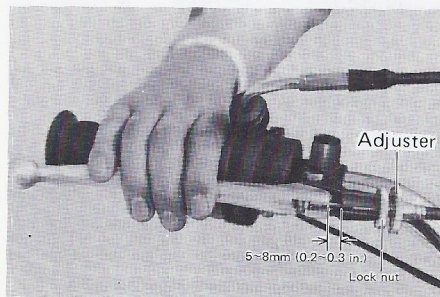
### 3. Brake cable

This cable also needs periodic lubrication. To release one end of the cable for lubrication, follow the same procedures as listed previously in the clutch cable section.

Removal of the front brake cable requires that you must first disconnect the cable at the lever, as was just explained. To disconnect it at the front hub, you have to screw the cable adjuster in so that there is plenty of cable slack right at the brake. Line up the slots in the adjuster lock nut, and hub housing, and slip the cable out of the adjuster and out through the slots.

### 4. Front brake adjustment

Either at the brake lever, or front wheel, loosen the lock nut, and screw the adjuster in or out until you have 0.2 - 0.3 in. (5 - 8 mm) free play.

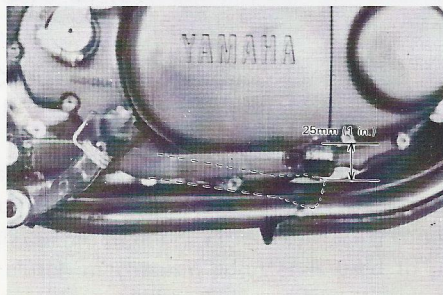


## 5. Rear brake adjustment

The correct free play of the rear brake pedal is about 1.0 in. (25 mm.). Adjust by turning the adjusting nut at the end of the rear brake rod a half turn at a time. After adjusting the brake, make sure the stop light is working. If not, readjust the stoplight switch.

### *Note:*

*Inspect the brake linings for wear and clean the brake shoes and drums every 2,000 miles (3,000 kms.). Always keep the shoes and drums free of oil. Rear brake adjustment should be performed any time the wheel is moved or removed or any time the chain is adjusted.*



## 6. Front wheel

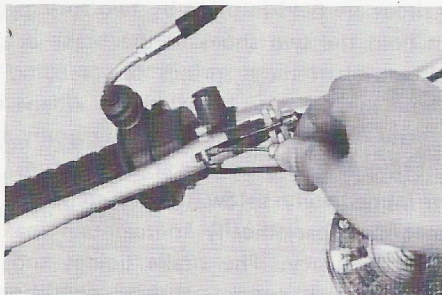
Work that might need to be done on the front wheel assembly includes tire or tube exchange, brake shoe replacement, hub/spokes/rim assembly replacement, and brake assembly maintenance and inspection. The following are the steps necessary to dismantle the front wheel, step by step, and you should proceed with the steps until you have removed the part to be replaced. You, as the owner, can replace everything but the hub the spokes, or the rim. To individually replace any of these parts requires that the spokes be "relaced". This should be done by a competent dealer as the spokes must be positioned and torqued correctly. If not done properly wheel alignment will not be correct and steering will be negatively affected.



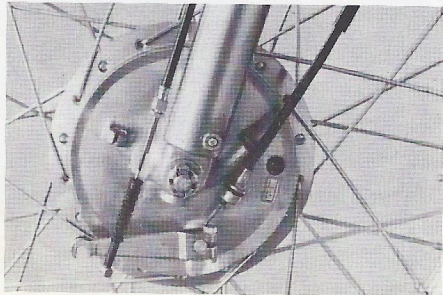
## 7. Front wheel removal

To carry out front wheel repair, you must remove the wheel.

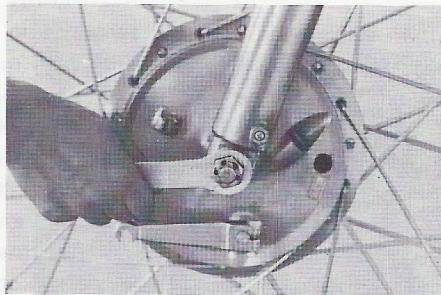
- a. Disconnect the brake cable at the front brake lever.



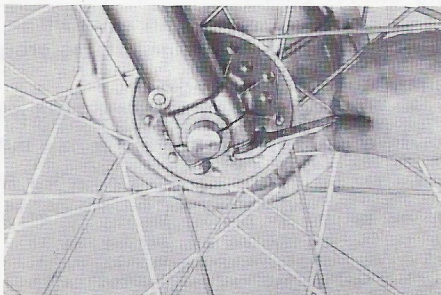
- b. Disconnect both the brake cable and speedometer cable from the front wheel hub plate.



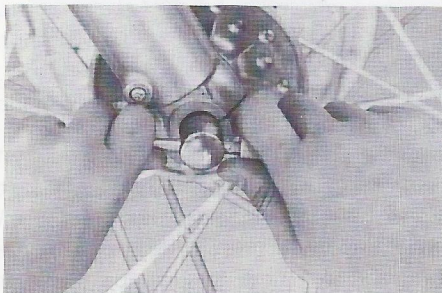
- c. Remove the cotter pin and front wheel nut.



- d. Loosen the front wheel axle holder nuts.



- e. Remove the front axle by simultaneously twisting and pulling out on the axle.



- f. Brace the front of the machine off the ground and remove the wheel assembly.
- g. During reassembly, make sure the speedometer torque tab is correctly positioned, the axle nut is torqued, the pinch bolts are torqued, and a new safety cotter pin is installed-in that order.

The brake plate can now be easily slipped out of the front wheel hub. The brake plate carries both brake shoes. They can be left in place on the brake plate for measurement, as shown below, or they can be lifted off for replacement or maintenance. The two brake shoes are held in place by two springs. These springs hold the two shoes to the brake actuating cam. Removal of these springs, or spreading them, will allow the shoes to be lifted off. Whenever the brake plate is off the wheel assembly, apply a small amount of grease to the brake actuating cam.

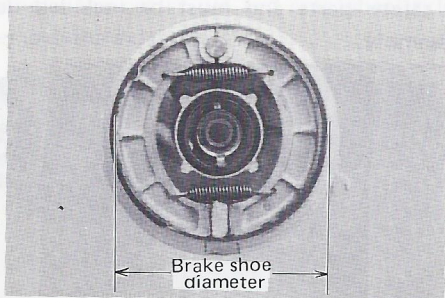
Shown immediately below are two steps that must be performed periodically to maintain maximum stopping efficiency. The brake linings and brake drum must be in correct working condition, and these steps do much to guarantee perfect working order.

## 8. Brake shoe

Measure the outside diameter of the brake shoe set with slide calipers.

If it measures less than that tolerance, replace it. Smooth out any rough shoe surface with sandpaper.

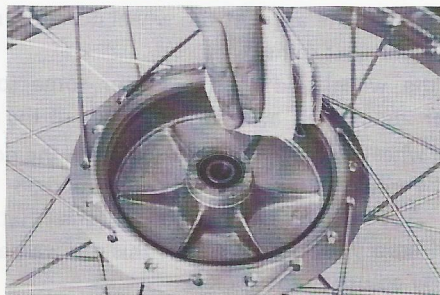
	STD	Wear Limit
Front Shoe Dia.	6.30 in. (160 mm.)	6.10 in. (155 mm.)
Rear Shoe Dia.	6.15 in. (150 mm.)	5.75 in. (145 mm.)



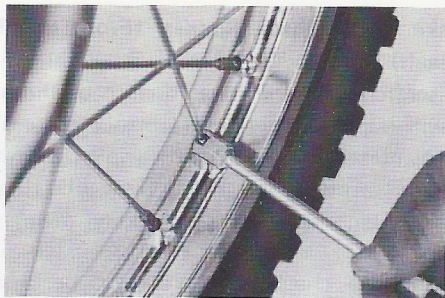
## 9. Brake drum, Rims, Spokes, (Front and Rear Wheels)

Oil or scratches on the inner surface of the brake drum will impair braking performance or result in abnormal noises. Remove oil by wiping with a rag soaked in lacquer thinner or solvent. Remove scratches by lightly and evenly rubbing with emery cloth.

There are also checks that you can perform to determine if wheel work is necessary for your dealer to do. First, check for any loose spokes. This can be checked by bracing the wheel off the ground so that the wheel can spin free. Slowly revolve the wheel and at the same time let the metal shaft of a fairly heavy screwdriver bounce off each spoke. If all the







spokes are tightened approximately the same, then the sound given off by the screwdriver hitting the spokes should sound the same. If one spoke makes a dull flat sound, then check it for looseness.

While you have the wheel up in the air, you should check that it does not have too much run-out. "Run-out" is the amount the wheel deviates from a straight line as it spins.

Spin the wheel and solidly anchor some sort of pointer about 1/8" away from the side of the rim.

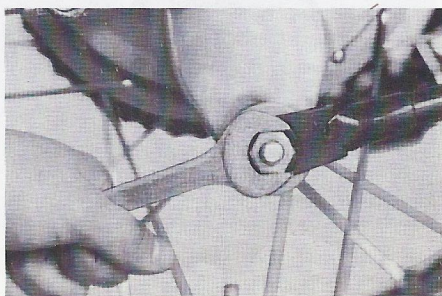
As the wheel spins, the distance between the pointer and the rim should not change more than 1/16" total. Any greater fluctuation means that you should have your dealer remove this rim warpage by properly adjusting the spokes.

## 10. Rear wheel

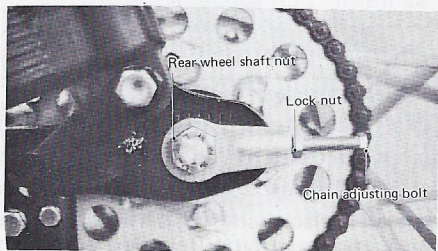
A complete list of rear wheel parts that you can remove, certain precautions and limitations that must be adhered to, checking for wheel run-out, and checking for spoke tightness can all be found in the FRONT WHEEL section. In order for you to carry out those steps that are possible, a list of procedures is given explaining how to completely disassemble the rear wheel assembly.

## 11. Rear wheel removal

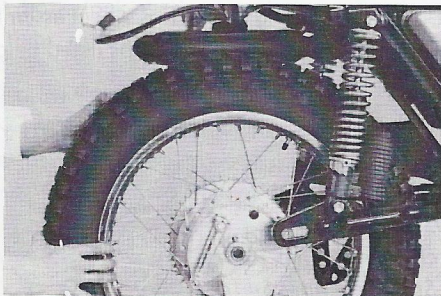
- a. Remove the tension bar and the brake rod from the rear shoe plate. Note the presence and location of the lock washer and cotter pin. These are safety parts and must be included during reassembly.



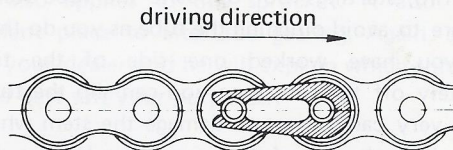
- b. Loosen the chain tension adjusting bolts and lock nuts on both right and left sides.



- c. Disconnect the drive chain.  
d. Remove the cotter pin and rear wheel axle nut.  
e. Remove the axle.



- f. Remove the chain adjusters and distance collar.  
Pull the wheel assembly back.  
g. When reconnecting the chain, be sure the master link is facing in the correct direction.



After reconnecting the chain adjust the free play to  $3/4$  in. (20 mm.) up and down, at the center of the lower section with the rear wheel on the ground.

## 12. Tire repair

First, remove the valve cap and valve stem lock nut. Loosen bead Spacer(s). Empty all the air out of the tire. Use two tire removal irons (with rounded edges) and begin to work the tire bead over the edge of the rim, starting 180° opposite the tube stem. Take care to avoid pinching the tube as you do this. After you have worked one side of the tire completely off the rim, then you can slip the tube out. Be very careful not to damage the stem while pushing it back out of the rim hole. If you are changing the tire itself, then finish the removal by working the tire off the same rim edge just previously mentioned.

Reinstalling the tire assembly can be accomplished by reversing the disassembly procedure. The only difference in procedure would be right after the tube has been installed, but before the tire has been completely slipped onto the rim, inflate the tube. This removes any creases that might exist. Release the air and continue with reassembly. Also, right after the tire has been completely slipped onto the rim, check to make sure that the st is squarely in the center of the hole in the rim.

Inflate the tire to specified pressure and tighten the bead spacer(s).

Front	13 lbs/in <sup>2</sup> (0.9 kg/cm <sup>2</sup> )	Normal Riding off-roads
Rear	16 lbs/in <sup>2</sup> (1.1 kg/cm <sup>2</sup> )	
Front	22 lbs/in <sup>2</sup> (1.6 kg/cm <sup>2</sup> )	Normal Riding on-roads
Rear	26 lbs/in <sup>2</sup> (1.8 kg/cm <sup>2</sup> )	

## 13. Rear wheel sprocket

This sprocket is an integral part of the motorcycle's overall gearing. Because of this it receives a certain amount of punishment. Eventually it might wear enough to need replacement. Or, perhaps a different sized sprocket might be desired to change the overall gearing. (A larger sprocket cuts down the top speed but provides the motorcycle with more pulling power.) Whichever reason it might be, the end result would be the necessity of removing the rear wheel sprocket. After removing the entire wheel assembly from the frame, proceed with the steps listed below.

*Note:*

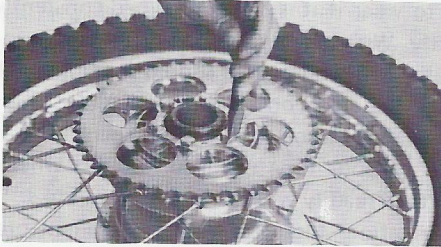
*Check with your dealer to determine what would be the correct size sprocket to install. Tell h where you plan to ride, how much weight will be carried, and how closely the current gearing comes to satisfying you now.*

*Do not change gearing during the warrenty Period without Specific Approval from your dealer.*

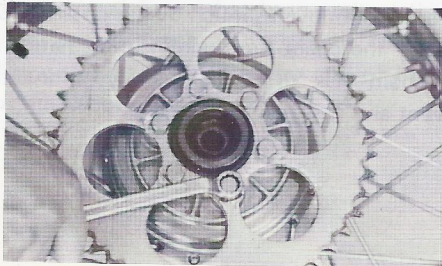


## Sprocket wheel removal

- a. Remove the rear wheel.
- b. Bend the lock washer ears flat.



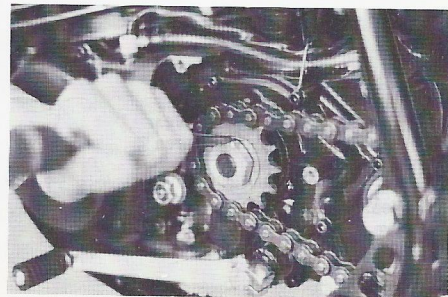
- c. Remove the sprocket mounting bolts. Check the lock washer and hexagonal bolts for breakage and damage. If the lock washer is not bent over the hexagon bolt head, or is broken, or the bolt is loose, the sprocket can come loose. Make sure that both lock washers and the mounting bolts are tight, during reassembly.



## 14. Countershaft sprocket

This sprocket transmits power through the chain to the Drive sprocket. All that was mentioned just previously in the REAR WHEEL SPROCKET section also applies to this sprocket. It also is an excellent place to alter the gearing. Again, check with your dealer and he will explain which sprocket would best suit your purposes.

- a. The first step in removing the sprocket is to remove the shift lever and remove the left-hand crankcase cover. The sprocket will now be completely in view. Flatten the tab washer used to lock the sprocket retaining nut. Remove the retaining nut.



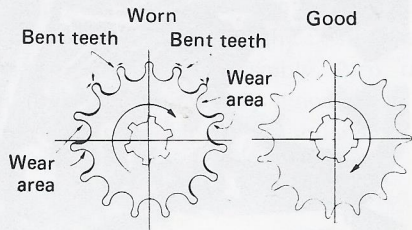
- b. To keep the sprocket from turning while applying force to the retaining nut, have someone engage the rear brake during this step.

During reassembly, make sure the retaining nut is tight and the locking tab of the washer is bent back into place.

### 15. Inspection

If your machine receives exceptionally hard usage, check this sprocket frequently for signs of wear. These drawings show just what to look for to determine if the sprocket is wearing.

If the sprocket has worn to the degree as shown in the drawing, then it should be replaced. Sprocket replacement is possible if you have sufficient tools, otherwise your dealer can change it in a very short time.



### 16. Drive chain

Because the chain consists of an extraordinary amount of parts that rub against one another, it is prone to wear if it is not maintained constantly and correctly. Without any lubrication, a chain can wear out within 100 miles. You should develop a habit of servicing the chain on a regular schedule. This habit is especially important if you spend the major portion of your time riding in the dirt where dust and dirt can readily work into the chain links.

- Lubrication—there are several excellent pressure can lubricants available. Use a brush and rag to wipe off any accumulation of dirt, then spray a liberal amount of lubricant on the chain at least every 200 miles.
- Cleaning—the chain has to be periodically removed from the machine and soaked in cleaning solvent. Completely saturate the chain with solvent to remove as much dirt as possible. Drain and dry the chain thoroughly. Immediately after the chain has dried completely, lubricate to prevent any rust from forming.

- c. Adjustment—proper drive chain up and down free play, with the rider in position, should equal 3/4" (20 mm.) when measured at the center of the lower section of chain.

Follow these steps to obtain the correct free play:

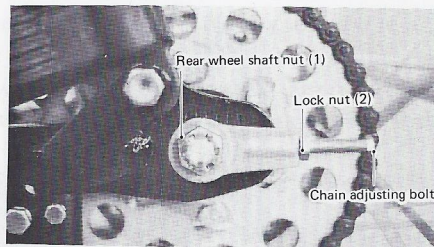
**CAUTION:**

*During machine cleaning, do not remove chain lubricant. See "cleaning" section for additional details.*

**Drive chain adjustment:**

- a. Remove the cotter pin and loosen the rear wheel nut (1).
- b. Loosen the chain adjusting bolt lock nuts (2).
- c. Rotate the adjusting bolts in or out, whichever is needed to obtain the correct free play, and at the same time make sure that both ends of the axle are positioned evenly. This can be checked by utilizing the marks on the very end of the swing arms, just above the rear axle.

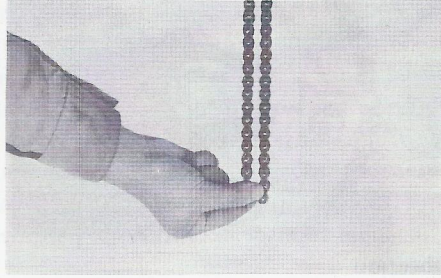
- d. After completing the adjustment, retighten all the lock nuts.
- e. Finally, be sure to install a new cotter pin and check for correct brake pedal and stop light operation as it could have changed due to the chain adjustment.





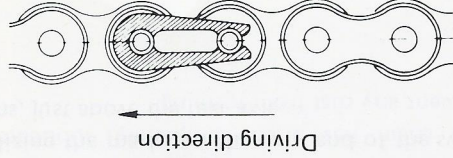
### Checking the chain

Whenever you have the chain off for cleaning, take time to check for excessive wear or links binding up. Clean the chain first and hold the chain straight up in the air. Visually check to see if any of the part of the chain is kinked (any place the chain does not hang straight down.)

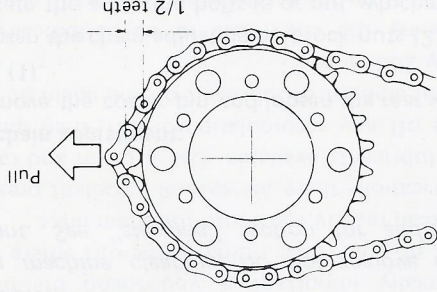


A simple test that can be utilized while the chain is still on the motorcycle is to lift the chain away from the curvature of the rear wheel sprocket. A chain is defective if you can pull the chain away from the sprocket more than half the length of a chain link.

*Note:*  
Whenever reinstalling the chain, always install the master link retaining clip so that the rounded end faces the direction of travel.



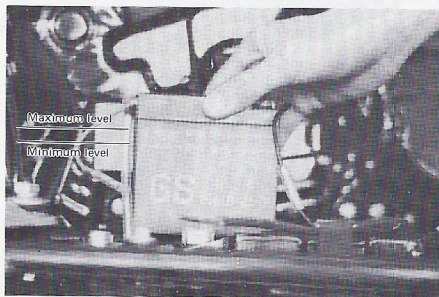
*Note:*  
WHENEVER YOU INSTALL A NEW CHAIN, ALWAYS CHECK BOTH SPROCKETS. IF EIGHTER ONE IS WORN SUFFICIENTLY, REPLACE IT. BEAR IN MIND THAT A WORN SPROCKET CAN RUIN YOUR BRAND NEW CHAIN.



## 17. Battery

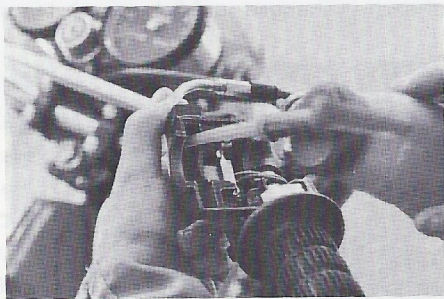
The life of your battery depends greatly on how well you keep it serviced. In order to service it completely and correctly, there are certain facts that you must know.

- a. Always keep the battery fluid level between the "Maximum" and the "Minimum" level. It should be checked at least once a month, more often during hot weather. If the battery needs filling, use distilled water. Do not use tap water as it usually contains minerals that can be harmful to the life of the battery.
- b. If for any reason the battery has become discharged, and you are going to charge it yourself, use a "trickle charger" that has no more than a one amp maximum rating. Also, make sure that all the battery caps have been taken off and that the rubber battery breather tube is not clogged or pinched shut. A charging battery creates gas, and pressure could build up in the battery if all the outlets were plugged up. Charge battery in a well ventilated area away from open flame.
- c. If the motorcycle is to be stored for more than a month, then remove the battery, have it fully charged, and store it in a cool dry storage area. If storage time is going to be lengthy, it is best to leave the battery with your dealer with specific instructions to recharge the battery every month or so. This procedure is necessary to insure maximum battery life.
- d. When reinstalling the battery, be sure to hook up the RED lead to the positive terminal and the BLACK lead to the negative terminal (the polarity of each is stamped just below each terminal).



## 18. Throttle cable and grip lubrication

The throttle twist grip assembly should be greased at the time that the cable is lubricated, since the grip must be removed to get at the end of the throttle cable. Two screws clamp the throttle housing to the handlebar. Once these two are removed, the end of the cable can be held high to pour in several drops of lubricant. With the throttle grip disassembled, coat the metal surfaces of the housing assembly with a suitable all-purpose grease to cut down friction.



## 19. Carburetor

There are only three adjustments on the carburetor that do not require the services of a mechanic: the idle mixture, engine idle speed, and throttle cable

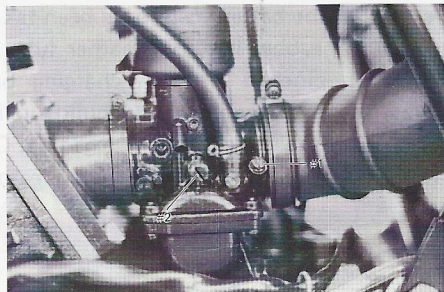
slack. Because the carburetor is such a critical part of the engine, any carburetor disassembly should be done by an experienced mechanic.

### a. Idle mixture

To set the idle mixture you must turn the idle pilot air screw (#1) in until it lightly seats, then back it out  $1\frac{1}{2}$  turns. This is a factory setting that can be set with the engine stopped.

### b. Idle speed

Start the engine and let it warm up. Next, screw the throttle stop screw (#2) in or out, whichever direction is necessary for the engine to idle between 1,200 and 1,300 rpm (check tachometer).



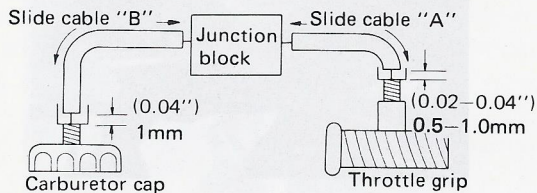


### c. Throttle cable slack

After engine idle speed has been set, then loosen the cable adjuster lock nut and turn the adjuster on top of the carburetor until there is .04" (1 mm.) of slack in throttle cable B'.

Retighten the lock nut.

Make the second throttle cable slack adjustment right at the throttle grip. There is a lock nut and adjuster where cable 'A' meets cable guide 'A'. Loosen the lock nut and turn the adjuster until there is 0.02–0.04" (0.5–1.0 mm.) slack in throttle cable 'A'. Retighten the lock nut.



#### Note:

To measure the amount of cable slack, slide the cable back and forth over the throttle wire and see how much end gap exists between the cable end and top of the carburetor (or cable guide 'A', if checking throttle cable 'A' slack).

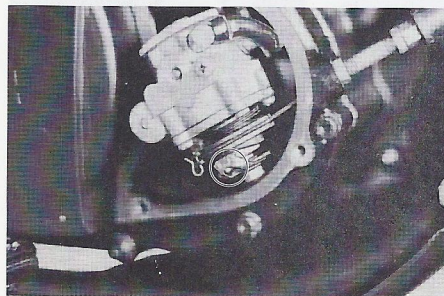
### 20. Throttle cable replacement

Replacement of this cable should be left to your dealer as it is complicated, and carburetor and Autolube adjustments are affected.

### 21. Autolube pump cable adjustment

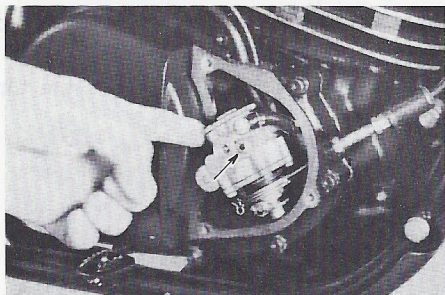
Close the throttle grip completely, then twist it open until all cable slack is removed, but stop before the slide starts to lift.

Adjust the pump cable so the mark on the pump pulley lines up with the 'adjust pulley guide pin'. The Autolube cable adjuster is located at the bottom end of the cable, screwed into the top of the right case cover.



### **IMPORTANT NOTE:**

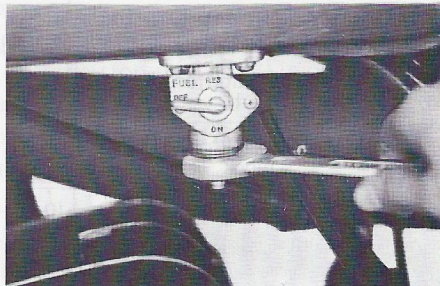
*If the pump runs out of oil, the pump must be bled to release air trapped in the pump. Remove the Phillips-head bleed screw, twist the throttle to full open position (turns the Autolube pump to maximum stroke), and rotate the plastic manual starter pump plate until only oil comes out the bleed hole (air stops coming out with the oil). Reinstall and tighten the bleed screw.*



### **22. Fuel petcock**

The pet cock serves another purpose other than acting as a fuel on and off valve. A wire mesh filter is incorporated into the assembly. This filter must be removed occasionally and cleaned.

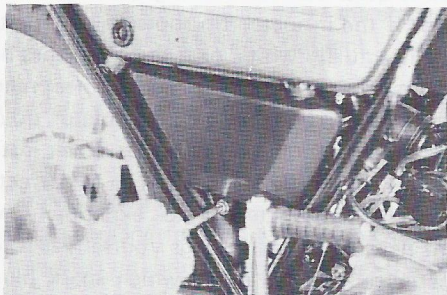
Remove the fitting from the bottom of the pet cock. Clean the filter and install the fitting after checking for a damaged gasket.



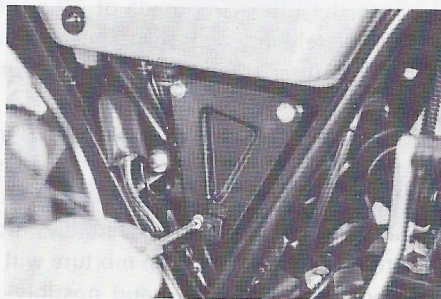
### 23. Air filter

This model is equipped with a reuseable, oil impregnated, foam filter. It must be removed and cleaned monthly or every 1,000 miles, more often if the motorcycle is ridden mainly in the dirt (preferably each time after you spend an entire day in the dirt).

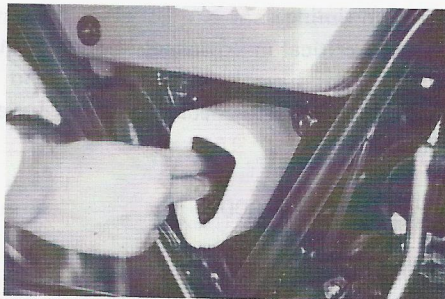
- a. Remove the air cleaner case cap fitting screws.



- b. Remove the cleaner case cap.



- c. The cleaner element can be pulled out.





Wash the foam filter thoroughly in solvent until all dirt has been removed. Squeeze all the solvent out. Pour oil onto the filter (any grade of 20 or 30 wt), work it completely in, and then squeeze out the surplus oil. The filter should be completely impregnated with oil, but not "dripping" with it.

Under no circumstances should you run the motorcycle without the air filter. First, dirt and dust will be able to pass through into the cylinder. Premature engine failure will be the result. Secondly, more air will flow to the engine. The lean mixture will result in higher engine temperatures and possibly severe engine damage.

#### **24. Ignition timing**

Timing is of critical importance. If after both your service checkups have been completed, and if for any reason you wish to check the timing, have your dealer check for you.

#### **25. Spark plug**

The spark plug in your machine can tell you a great deal as to how the engine is operating when you know how to "read" the plug. If the engine is operating correctly, and if it is being ridden correctly, then the tip of the white insulator in the spark plug will be a light tan color. If, when you remove the spark plug, it is very dark brown or black, then a plug with a hotter heat range might be needed. This situation is quite common during the engine break-in period. If the insulator tip shows a very light tan color, or is actually white, or if the electrodes begin to melt, then a spark plug with a colder heat range is required. Again, if the spark plug insulator tip does not have a light tan color, have your dealer install a spark plug with a different heat range to correct the situation. Do not attempt to experiment with different heat range spark plugs yourself, as it takes an experienced eye to gauge which spark plug to use, and to gauge if the spark plug is actually at fault. It is all right though for you to replace the standard plug. Engine conditions can cause any spark plug to slowly break down. If deposits begin to build up, or if the electrodes finally become too worn, or if for any reason you believe the spark plug to not be functioning correctly, replace it. Be sure,

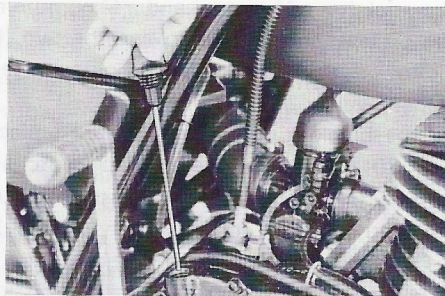
when replacing the plug, that you always clean the gasket surface, that you use a new gasket, and that the spark plug is torqued to 230 ~ 250 in-lbs. Also wipe off any grime that might be present on the surface of the spark plug. The plug can be taken out to be cleaned and gapped. As long as deposit build-up on the insulator is not extreme, you can use a glass bead type spark plug cleaner to quickly remove the deposits.

Use a wire type feeler gauge to set the electrode gap at 0.020" - 0.024" (0.5 mm. - 0.6 mm.)

Standard Plug: NGK B9ES

## 26. Transmission oil

The only servicing for you to do is to check and fill the transmission lubricating oil. The transmission dip stick is located right above the kickstarter. To check, the level, warm the engine up for several minutes, screw the dip stick completely out and then just rest the stick in the hole.



### *Note:*

*When checking transmission oil level with the dip stick, let the unscrewed dip stick just rest on the case threads. Also, be sure the machine is positioned straight up and on both wheels.*

Recommended oil: Yamalube 4-cycle or  
SAE "SE" 10W/30 Motor  
oil

Amount: 1,000 cc (1.0 qts)

The dip stick has a Minimum and a Maximum mark, and the oil level should be between the two. If the level is lower, then add sufficient oil to raise it to the proper level.

During the break-in period, you should replace the gear oil 30 days after the date of purchase or thereafter 2,000 miles. The transmission should be drained and refilled approximately every 2,000 miles. On the bottom of the engine there is a drain plug. Remove it and drain all the transmission oil out.

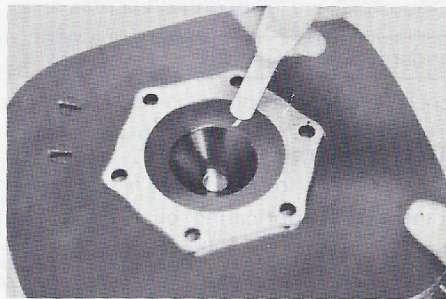
Reinstall the drain plug (make sure it is tight). Add oil through the dip stick hole.

*Note:*

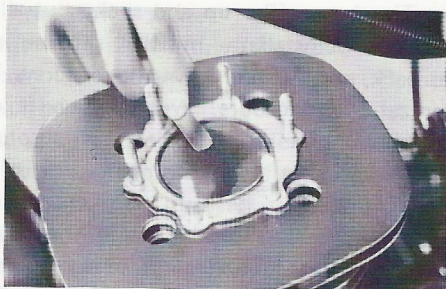
**DO NOT ADD ANY CHEMICAL ADDITIVES. TRANSMISSION OIL ALSO LUBRICATES THE CLUTCH AND ADDITIVES COULD CAUSE THE CLUTCH TO SLIP.**

## 27. Decarbonization

Carbon deposits in the combustion chamber, on the head of the piston, in the exhaust port, and in the muffler are a constant cause of engine power loss. Decarbonization of these parts is relatively simple, requiring only a few tools. A torque wrench is one of the necessary tools. Going any further though, such as removing the carbon from ring grooves, should be done by a certified mechanic, as this requires cylinder removal.







Begin this servicing step by gradually loosening the retaining nuts, in a pattern. **DO NOT LOOSEN EACH NUT COMPLETELY ALL AT ONCE**, but work around the cylinder head, loosening each nut ½ turn at a time. Slip the head off and use a dull or round edge scraper to rove the carbon from the combustion chamber (do not remove the spark plug). The round end of a nacksaw blade works quite well. Use a rag dipped in solvent and thoroughly clean the area Do not scratch the gasket surface.

	SIZE	TORQUE VALUE
Head Nuts	8 mm	180~220 lbs/in <sup>2</sup> (2.1~2.5 kg-m)
Cyl. Nuts	10 mm	370~390 lbs/in <sup>2</sup> (9.2~4.5 kg-m)

Bring the piston up to the very top and use the same scraping tool to remove the carbon from the top of the piston. Blow off as much of the loosened carbon as possible, then use the solvent soaked rag to pick up as much of the rest as possible.

Next, rotate the piston as far down as possible. Slip a dry rag down over the piston for protection. Disconnect the muffler. Very carefully use a small scraper and remove the carbon from the port opening (take care that it does not fall back into the cylinder). As soon as possible, scrape the carbon from the exhaust port from the outside opening. The head can now be put back onto the cylinder. Carefully wipe off the gasket surfaces of both parts.



Position the head gasket (which should be a new one) on the cylinder. Slip the head into place and tighten the six retaining bolts until they are finger tight. Use the torque wrench to tighten them further. You should torque all nuts in a 'cross' pattern, and in two progressive steps of increasing torque (example: 10 ft-lb, 15 ft-lbs) to prevent warpage.

Next, remove the inner cylinder from the back end of the muffler. This is done by removing the set screw and pulling out the assembly. Remove all the carbon deposits with a wire brush. While the assembly is out of the muffler, look inside for additional deposits. If any are present, the muffler should be removed and a stout scraper used to brak

it loose, Tip the muffler up and shake out all the loose carbon. Reinstall the muffler, slip the inner cylinder back, and tighten down the set screw. This decarbonization procedure, even though it only takes a short time to complete, is absolutely necessary to prolong the performance life of the engine. Whether you perform this maintenance yourself, or have your dealer do it, be sure to faithfully follow the maintenance time recommendations listed in the chart at the beginning of the **SERVICING** section.

## **28. Steering**

Periodically you should check for any looseness in the steering assembly. Do this by blocking the front end off the ground, grasping the bottom of the forks, and gently rocking the fork assembly backward and forward. You will feel any looseness in the steering assembly bearings. If any exists, do not attempt to correct it yourself but let your dealer make the adjustment with the correct tools.

Also, these same front fork bearings must also be lubricated every 2,000 miles. This the dealer should also do.

## 29. Front fork

At least every 2,000 miles the front fork oil should be completely drained and refilled. Remove the Phillips head screws in the very bottom of the forks. Next, remove the fork cap found on top of each fork tube and most of the fork oil will drain out. Compress the forks several times to pump all the remaining oil out. Reinsert the drain screw and make sure it is tight. Slowly pour oil into each fork leg. (see Lubrication Recommendations section for type oil).

At least every other time you should have your mechanic dismantle the fork assembly and thoroughly clean out each fork. Water and dirt eventually coat much of the inner fork surfaces and cannot be readily removed just by draining.

	Each leg
Front fork capacity	5.9 oz. (175 cc.)





## WARRANTY INFORMATION

Study your Owner's Warranty Guide Book thoroughly. It contains your Warranty Policy, an explanation of the policy, break-in procedures and the required service schedules. Becoming familiar with these items will be to your advantage in making the best use of Yamaha's warranty program. The acceptance of any warranty claim that your dealer might submit in the future depends greatly on just what has been done to the motorcycle.

**IF ANY PARTICULAR FAILURE CAN BE TRACED DIRECTLY TO A REPAIR OR MAINTENANCE PERFORMED INCORRECTLY, THE WARRANTY CLAIM MAY NOT BE ACCEPTED.**

For this reason, we recommend that all services beyond those detailed in this manual be performed by a qualified mechanic at an authorized Yamaha dealer.

There are certain requirements that must be met to qualify for warranty coverage.

1. Your machine must be registered for warranty. This is accomplished when the Warranty Registration card is filled out by you and mailed by the dealer to Yamaha at the time of purchase.
2. Your Owner's Warranty Guide Book outlines the required service schedules and provides a maintenance record for your protection and convenience. Proper maintenance will insure a trouble free life for your new Yamaha.
3. If any problems occur which you feel should be covered under warranty, **NOTIFY YOUR DEALER IMMEDIATELY.** Do not delay, as little problems left unrepaired can become large problems which may not be covered under warranty.

## REQUIREMENTS FOR A GOOD MOTORCYCLIST

1. Safety is more important than speed. Always observe traffic regulations & signs.
2. Always use quality gasoline and oil, and avoid the inconvenience of running out of gas or oil.
3. Check tire pressures before every ride.
4. Warm up the engine for about one minute before riding.
5. Shift gears gently, while momentarily closing the throttle, avoid power shifting.
6. During the break-in period, ride at the suggested speed in each gear.
7. Apply the front and the rear brake at the same time.
8. Down a long hill, use engine compression as a brake.
9. When parking, be sure to turn off and remove the ignition key, turn off the fuel pet cock, and lock the steering.
10. Check parts at regular intervals as described in this manual.

## Troubleshooting

### 1. Factory Authorized Service

Your Yamaha dealer is a factory trained mechanic who guarantees thorough and correct maintenance for your motorcycle. We recommend that you let your dealer make all repairs and adjustments on your motorcycle. You will be assured prompt and good service.

### 2. Genuine Yamaha Parts

Always use genuine Yamaha parts and not "substitute" brands. Yamaha parts are manufactured to meet the factory's exacting standards of precision and quality.

### 3. If Something Should Go Wrong.....

Your Yamaha undergoes rigid factory tests to assure you long and satisfactory performance. However, if something should go wrong with your machine, immediately ask your Yamaha dealer for advice. He is always glad to answer your questions.

### **IMPORTANT:**

Some components are sealed or cannot be disassembled. If repairs to such components are necessary go to your Yamaha dealer. Yamaha cannot be responsible for repairs and adjustments to such components performed by unauthorized personnel.

### **Note:**

The inspection and maintenance of Autolube should be instructed to your dealer.



# Consumer Information

## Stopping Distance

This figure indicates braking performance that can be met or exceeded by the vehicles to which it applies, without locking the wheels, under different conditions of loading and with partial failures of the braking system. The information presented represents results obtainable by skilled drivers under controlled road and vehicle conditions, and the information may not be correct under other conditions.

Description of vehicles to which this table applied: Yamaha motorcycle DT400B

### A. Fully Operational Service Brake

Load

Light

Maximum

175

182

0

100

200

300

Stopping Distance in Feet from 60 mph.

## Acceleration and passing ability

This figure indicates passing times and distances that can be met or exceeded by the vehicles to which it applies, in the situations diagrammed below.

The low-speed pass assumes an initial speed of 20 mph and a limiting speed of 35 mph. The high-speed pass assumes an initial speed of 50 mph and a limiting speed of 80 mph.

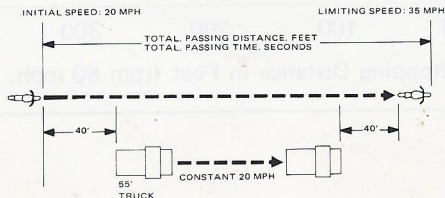
**NOTICE:** The information presented represents results obtainable by skilled drivers under controlled road and vehicle conditions, and the information may not be correct under other conditions.

Description of vehicles to which this table applied: Yamaha motorcycle DT400B

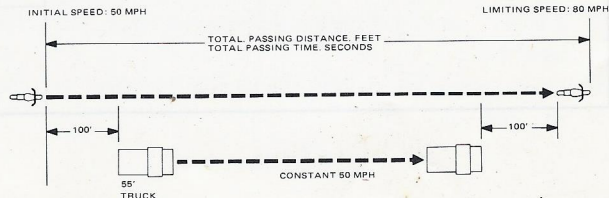
### Summary Table:

Low-speed pass .....	352 feet; 7.2 seconds
High-speed pass .....	1,084 feet; 11.2 seconds

### LOW-SPEED



### HIGH-SPEED



## CLEANING AND STORAGE

### 1. Cleaning

Frequent thorough cleaning of your motorcycle will not only enhance its appearance but will improve general performance and extend the useful life of many components.

a. Before cleaning the machine:

- 1) Block off end of exhaust pipe to prevent water entry; a plastic bag and strong rubber band may be used.
- 2) Remove air cleaner or protect it from water with plastic covering.
- 3) Make sure spark plug, gas cap, oil tank cap, transmission oil level gauge cap and battery caps are properly installed.

b. If engine case is excessively greasy, apply degreaser with a paint brush. Do not apply degreaser to chain, sprockets, or wheel axles.

- c. Rinse dirt and degreaser off with garden hose, using only enough hose pressure to do the job. Excessive hose pressure may cause water seepage and contamination of wheel bearings, front forks, brake drums, and transmission seals. Many expensive repair bills have resulted from improper high-pressure detergent applications such as those available in coin-operated car washes.
- d. Once the majority of dirt has been hosed off, wash all surfaces with warm water and mild, detergent-type soap. An old tooth brush or bottle brush is handy to reach those hard-to-get-to places.
- e. Rise machine off immediately with clean water and dry all surfaces with a chamois skins, clean towel, or soft absorbent cloth.
- f. Immediately after washing, remove excess moisture from chain and lubricate to prevent rust.
- g. Chrome-plated parts such as handlebars, rims, spokes, forks, etc., may be further cleaned with automotive chrome-plate.
- h. Clean the seat with a vinyl upholstery cleaner to keep the cover pliable and glossy.



- i. Automotive-type wax may be applied to all painted and chrome-plated surfaces. Avoid combination cleaner-waxes. Many contain abrasives which may mar paint or protective finish on fuel and oil tanks.
  - j. After finishing, start the engine immediately and allow to idle for several minutes.
- d. Remove drive chain. Clean thoroughly with solvent and lubricate with graphite-base chain lubricant. Reinstall chain or store in a plastic bag (tie to frame for safe-keeping).
  - e. Lubricate all control cables.
  - f. Remove battery and charge. Store in a dry-cool place and re-charge once a month. Do not store battery in an excessively warm or cold place (less than 32°F or more than 90°F).

## 2. Storage

Long term storage (30 days or more) of your motorcycle will require some preventive procedures to insure against deterioration. After cleaning machine thoroughly, prepare for storage as follows:

- a. Drain fuel tank, fuel lines, and carburetor float bowls(s).
- b. Remove empty fuel tank, pour a cup of 10W to 30W oil in tank, shake tank to coat inner surfaces thoroughly and drain off excess oil. Reinstall tank.
- c. Remove spark plug(s), pour about one tablespoon of 10W to 30W oil in spark plug hole(s) and reinstall spark plugs. Kick engine over several times (with ignition off) to coat cylinder walls with oil.
- g. Block up frame to raise both wheels off ground. (Main stands can be used on machines so equipped.)
- h. Deflate tires to 15 psi.
- i. Tie a plastic bag over exhaust pipe outlet(s) to prevent moisture entering.  
If storing in humid or salt-air atmosphere, coat all exposed metal surfaces with a light film of oil. Do not apply oil to rubber parts or seat cover.

## Specifications

Model	YAMAHA DT400B	
Dimension	Overall length	2,180 mm
	Overall width	870 mm
	Overall height	1,140 mm
	Wheelbase	1,410 mm
	Minimum road clearance	
Weight	Net	124 kg
Performance	Maximum speed	135 km/h
	Climbing capacity	35°
	Minimum turning radius	2,000 mm
	Braking distance	15 m at 50 km/h

Engine

Type

Air-cooled, 2-stroke, gasoline, Torque induction

Engine model

500

Cylinder

Single, Forward inclined:

Displacement

397 cc

Bore & Stroke

85 mm x 70 mm

Compression ratio

6.4 : 1

Starting system

Primary kick

Ignition system

C.D.I.

Fuel tank capacity

9ℓ

Oil tank capacity

1.5 ℓ

Lubricating system

Separate lubrication (Yamaha Autolube)

Battery capacity

6V, 4AH

Battery type

6N4B-2A or (6N4B-2A-3) x 1

Generator system

Flywheel magneto

Generator type

FOTO2173

Generator manufacturer

Mitsubishi Electric Co., Ltd.

Spark plug

NGK (B-9ES) x 1

Carburetor

(VM32SS) x 1

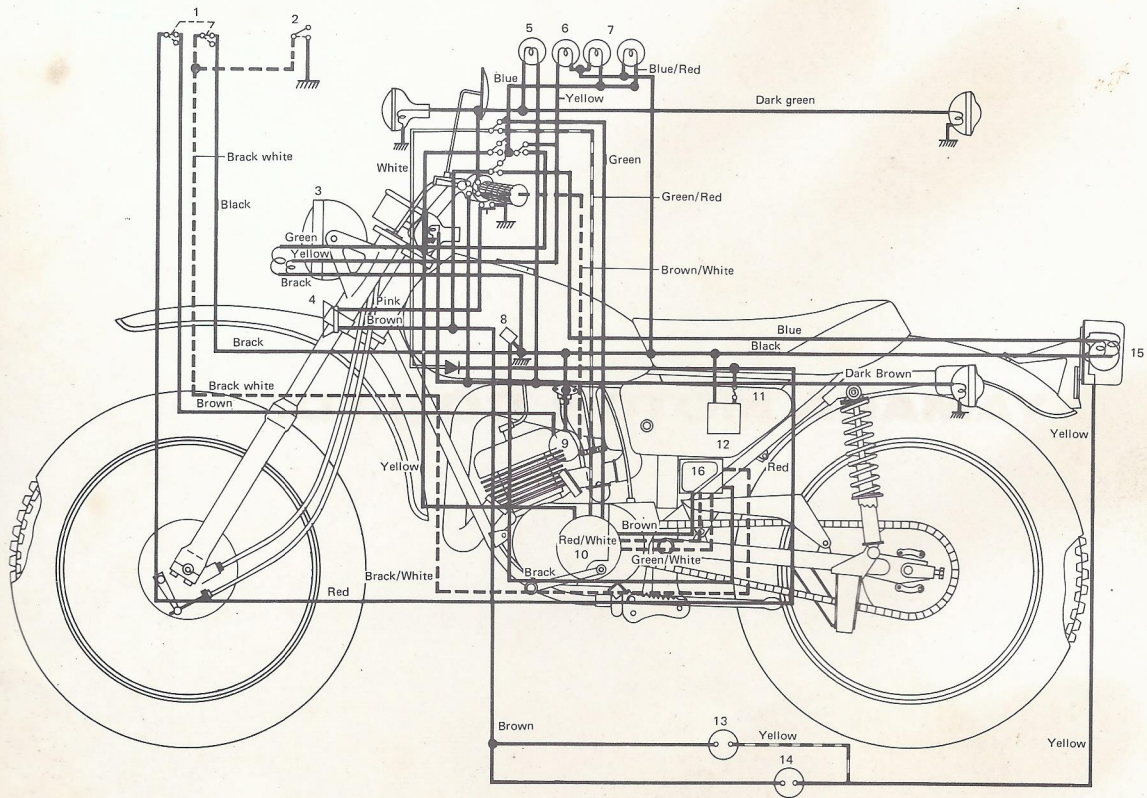
Air cleaner

Wet, foam rubber



Transmission	Primary reduction system	Gear, helical type	
	Primary reduction ratio	64/24      2.666	
	Secondary reduction system	Chain	
	Secondary reduction ratio	40/14      2.857	
	Clutch	Wet, multi-disc type	
	Gear box type	Constant mesh, 5-speed	
	Operating system	Left foot operated, Return system	
	Gear ratio	First	38/15      2.533
		Second	34/19      1.789
		Third	30/23      1.304
Fourth		26/26      1.000	
Fifth		23/30      0.766	
Steering	Caster	50°30'	
	Trail	135 mm	
Tire size	Front	3.00-21-4PR (Trials Universal tire)	
	Rear	4.00-18-4PR (Trials Universal tire)	
Suspension system	Front	Telescopic fork	
	Rear	Swing arm	
Cushion sy system	Front	Coil spring, oil damper	
	Rear	Coil spring, oil damper	

Frame	Double cradle-type, high tension tube frame	
Lamps	Headlamp	6V, 35W/35W
	Taillamp	6V, 5.3W
	Stoplamp	6V, 17W
	Flasherlamps	6V, 17W
	Pilot lamps	
	"    F	6V, 3W
	"    H	6V, 3W
Meter lamps	(6V, 3W) x 2	
Meter system	Separate type, tachometer & Speedometer	







SINCE 1887

**YAMAHA MOTOR CO.,LTD.**

IWATA JAPAN

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