YAMAHA

250 SINGLE ENDURO

RIDER'S MANUAL

DT1-E&DT1-MX

(アメリカ・カナダ向)

291-28199-10

CONTENTS

I. Features and Specifications

1. Features

(1) High-performance Single Cylinder Engine

The Yamaha Enduro 250 DT1-E utilizes a powerful, two-stroke 250 cc engine. The new five-port cylinder, which is another Yamaha technical development, greatly improves engine efficiency, and is resposible for high output throughout a broad power range.

(2) Highly-dependable Yamaha Autolube

Yamaha Autolube provides superior engine lubrication that extends the service life of the engine.

(3) Easy Starting

The engine can be started by simply disengaging the clutch and kicking the kick pedal without shifting gears back to neutral. This is a valuable convenience to the rider.

(4) Powerful Brakes

Patented waterproof, dustproof brake drums provide safe, fade-free braking on wet or dusty roads.

(5) Adjustable Rear Cushion

The rear cushions are adjustable to five positions. The rider can adjust spring tension to compensate for varying weights, speeds, and road conditions.

(6) Front Fork Design

The Yamaha Enduro 250 DT1-E employs a front fork design well-known for its strength and superior handling characteristics. Its use assures the rider of the ultimate suspension for even the roughest terrain.

(7) Speedometer and Tachometer

A separate Speedometer and Tachometer is standard equipment. The individual units are separatly mounted for maximum visibility. As an added feature the speedometer has an odometer which can be reset by tenths to zero for trip or enduro purposes.

(8) Tires

The Yamaha DT1-E is fitted with Dunlop Trial's Universal Tires as standard equipment. This particular tread is one of the most versatile available and gives maximum trail traction, yet is compatible with road usage.

(9) Carburetor Starter Feature

Yamaha's starter jet feature is already well-known for providing easy starting. Equipped with this unique carburetor, the Yamaha DT1-E is quick starting under all conditions.

(10) GYT (Genuine Yamaha Tuning) Kit

The DT1-MX is furnished with the GYT Kit so that it can be converted a fully-equipped motocrosser.

2. Specifications

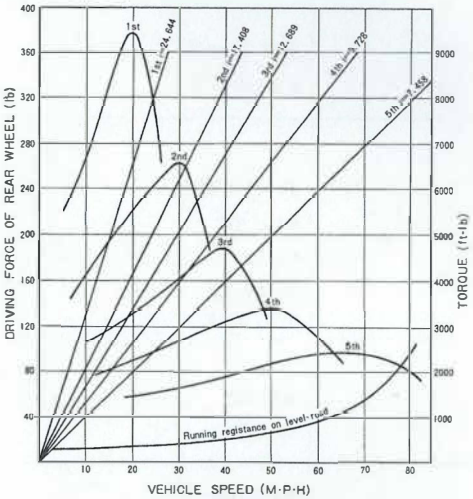
Performance & Specifications: DT1-E

Dimensions:	
Overall length	82.7 in.
Overall width	35.0 in.
Overall height	45.7 in.
Wheelbase	54.7 in.
Min. ground clearance	10.0 in.
Weight:	
Net	245 lbs
Performance:	
Max. speed	73 mph or more (std.)
Fuel consumption (on paved level roads)	94 mpg @ 25 mph
Climbing ability	35°
Min. turning radius	78.7 in.
Braking distance	49 ft./31 mph.
Engine:	
Model	DT1F
Type	2 stroke gasoline,
Lubricating system	Separate lubrication (Yamaha Autolube)
Cylinder	single, forward inclined, 5-port
Displacement	15 cu., in. (246 cc)
Bore × Stroke	2.77 × 2.52 in. (70 × 64 mm)
Compression ratio	6.8 : 1
Max. power	23 BHP/7,000 rpm
Max. torque	17.5 ft-lbs/6,500 rpm
Starting	Primary-coupled kick starter system
Ignition method	Flywheel magneto ignition system

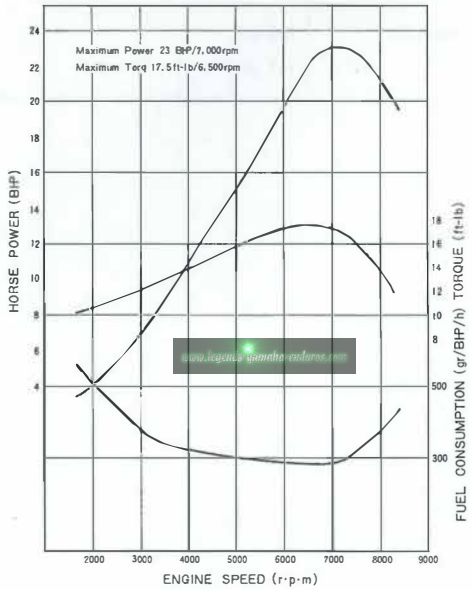
Carburetor:	
Type	VM26SH
M.J.	#160
J.N.	5D1-3 stages
Air cleaner:	Wet form filter
Spark plug:	B-8ES
Chassis:	
Frame	Tubular-Double loop
Suspension Front	Telescopic
Rear	Swinging arm
Transmission:	
Clutch	Wet, multiple-disk
Primary reduction system	Gear
Primary reduction ratio	3.095 (65/21)
Gear shifting type	Constant mesh, 5 speed
Gear ratio 1st	2.533 (Total r. ratio 24.643)
2nd	1.789 (Total r. ratio 17.407)
3rd	1.304 (Total r. ratio 12.688)
4th	1.000 (Total r. ratio 9.727)
5th	0.766 (Total r. ratio 7.458)
Secondary reduction system	Chain
Secondary reduction ratio	3.143 (44/14)
Steering:	
Steering angle	49°
Caster	60.5°
Trail	5.12 in.

Tire size:	
Front	3.25-19-4PR
Rear	4.00-18-4PR
Lighting:	
Headlight	6V 35W/35W
Taillight	6V 5.3W
Stoplight	6V 17W
Meter light	6V 3W×2
Flasher light	6V 17W×4
Battery:	
Model No.	MV1-6D
Capacity	6V 2AH
Dynamo model:	FZA-1DL
Tanks:	
Gasoline tank capacity	2.5 gal.
Oil tank capacity	1.7 qt.

250 DTI-E DRIVING PERFORMANCE CURVES



250 DTI-E ENGINE PERFORMANCE CURVES



Ⅱ. Yamaha Autolube

What is Yamaha Autolube ?

Yamaha Autolube is an automatic lubrication system which obsoletes the conventional two-stroke premixing system. Oil stored in the oil tank is metered automatically to the engine, by an oil pump, with the quantity varying according to engine speed and load.

The heart of the system is the compact, precision-built oil pump. Driven off the engine crankshaft through reduction gears, the varying oil needs are regulated by the pump which feeds the oil directly to the engine. Regulation is controlled through engine rpm's and throttle setting.

Features:

Yamaha Autolube eliminates the lubrication problems peculiar to two stroke engines with the conventional "pre-mixing" system. Oil is never contaminated by gasoline prior to delivery to the engine, nor is it subject to de-naturing through storage in the gas tank.

1. The Autolube system results in:

- O Oil consumption up to 1/3 LESS than that of previous lubrication systems.
- O Greatly reduced carbon build-up.
- O Reduced exhaust emission.

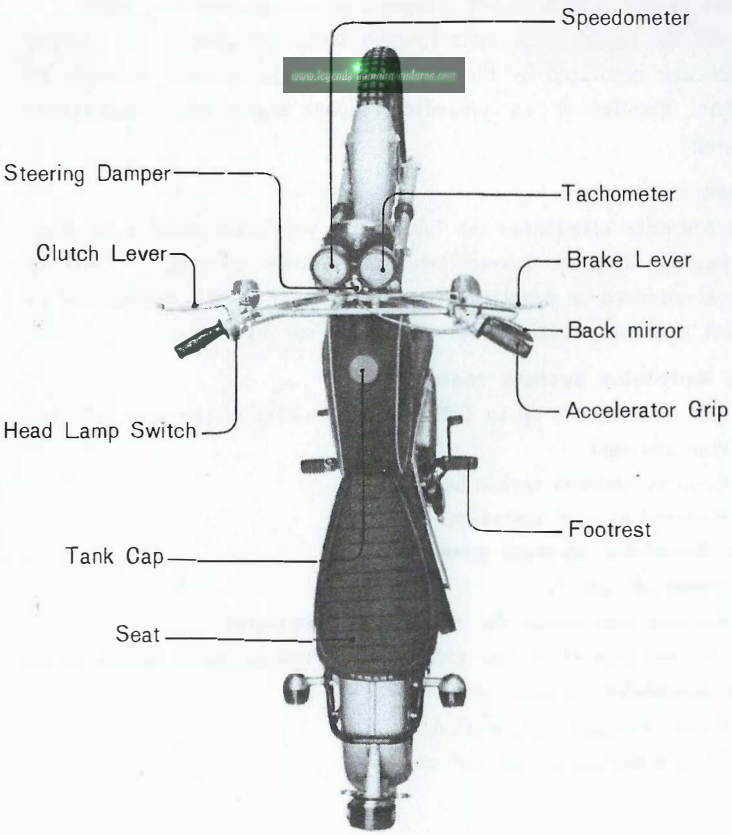
2. The Autolube system provides:

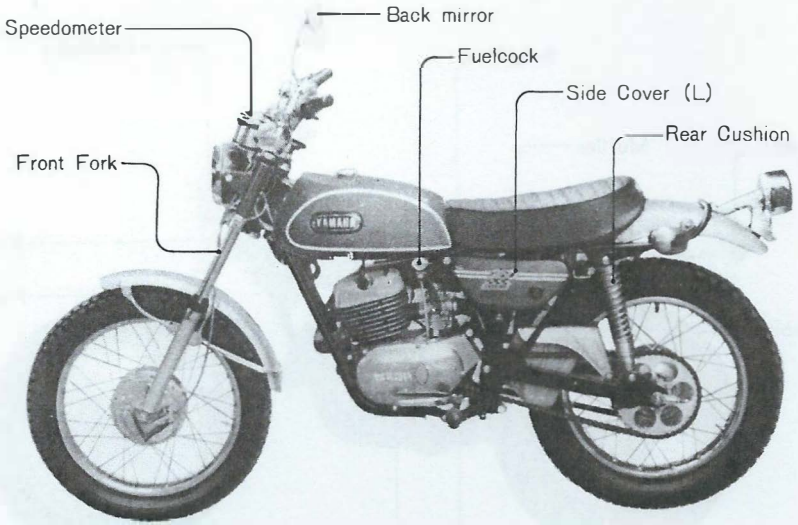
- O Fresh oil supply
- O Smooth lubrication due to large oil particles
- O No worries about the quality of oil and oil-fuel mixing ratios

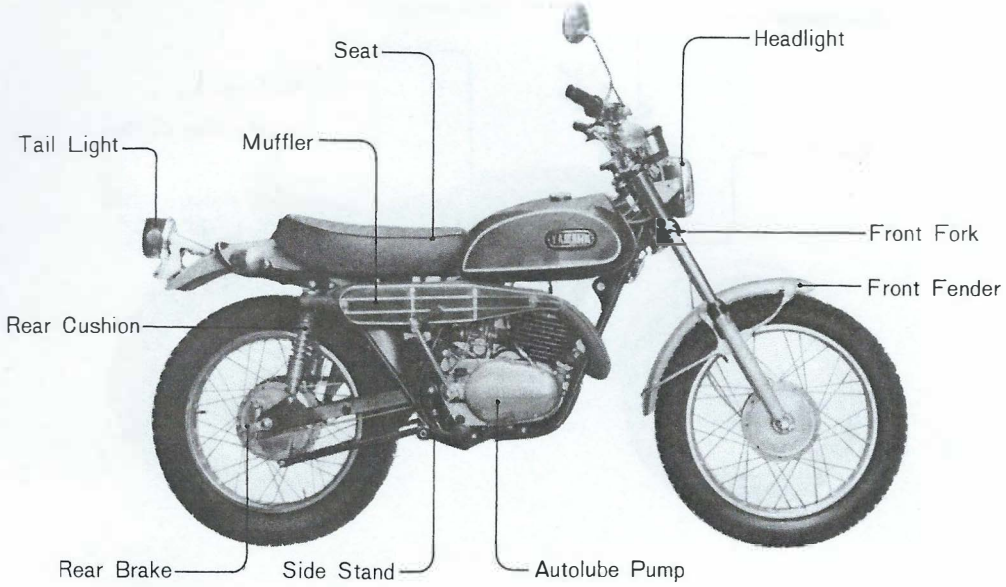
3. The Autolube system means:

- O Fuel- "straight" gasoline only
- O No pre-mixing of oil and gasoline

Ⅲ. Nomenclature




Speedometer
Back mirror
Fuelcock
Side Cover (L)
Rear Cushion
Front Fork


Seat
Headlight
Tail Light
Muffler
Front Fork
Front Fender
Rear Cushion
Rear Brake
Side Stand
Autolube Pump

Ⅳ. Basic Instructions

1. Gasoline and Oil

The Yamaha Enduro 250 DT1C, equipped with the Yamaha Autolube system uses straight gasoline as fuel.

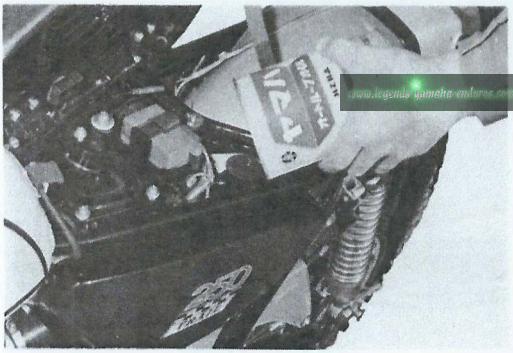
Gasoline: Use gasoline of 90 octane rating or more.

Oil: Use oil for lubrication.

Store it in the separate oil tank located under the seat.

[Autolube Oil]

The Yamaha Autolube Oil (Yamalube), refined especially for this new lubricating device, excells in lubrication, cleanliness and liquidity at low temperatures. The performance of the Autolube depends on the quality of oil. Yamaha Autolube Oil is recommended for higher performance and longer life of the engine.



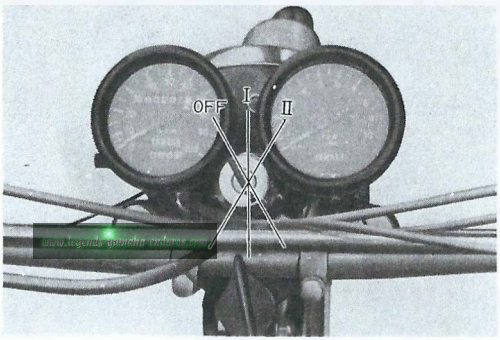
2. Familiarization with Equipment

(1) Main Switch

The main switch has three key positions, OFF, Ignition, and Ignition + Lights.

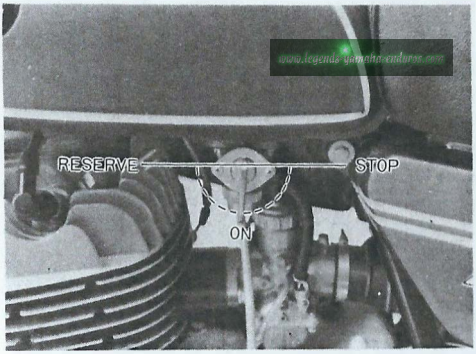
The following chart shows the key positions at which the various system are switched on or off. (The circle (o) denotes "Switch on".)

	OFF	I	II	Instructions
Engine		○	○	To starting the engine, kick the kick pedal.
Neutral light		○	○	The change pedal is in neutral.
Meter lamp			○	The engine is running.
Headlight			○	The engine is running.
Taillight			○	
Stoplight		○	○	The brake is applied.
Horn		○	○	The horn button is depressed.
Flasher light		○	○	Turn on left handlebar switch.



(2) Fuel Petcock

To allow the fuel to flow into the carburetor, set the fuel petcock lever to ON. Should you run low of fuel while driving, turn it to RESERVE. The reserve portion will enable you to drive approximately 50 miles (80 km). When parking, the lever should be turned to STOP.

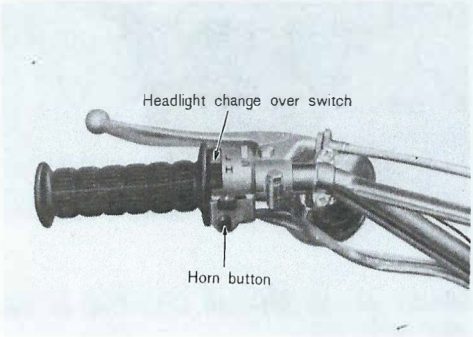


(3) Handlebar Switches

a. To sound the horn, depress the horn button.

b. To raise the head light beam, pull the switch toward you. To lower the beam, push the switch toward the front.

c. To wink the flasher light, turn on left handlebar switch.

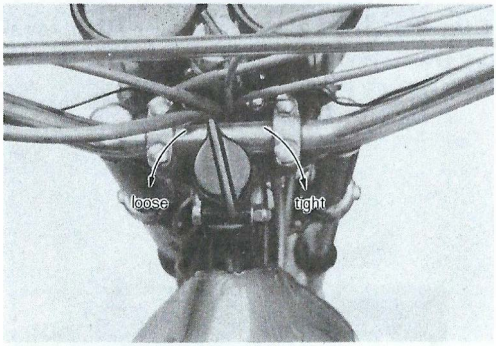


(4) Trip Total Meter

A trip total meter is built in the speedometer. It is designed to total the mileage of each trip. Before starting a trip, set the trip total meter to the zero position.

(5) Steering Damper

The steering damper is adjustable to suit various conditions and rider preference. Turning the damper clockwise increases the friction loading.

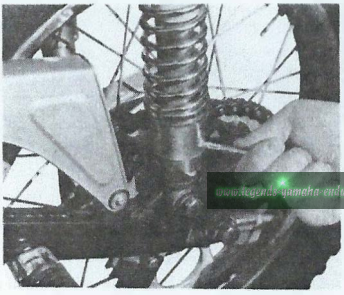


(6) Rear Cushions

The rear cushions can be adjusted according to load, road conditions, and rider preference.

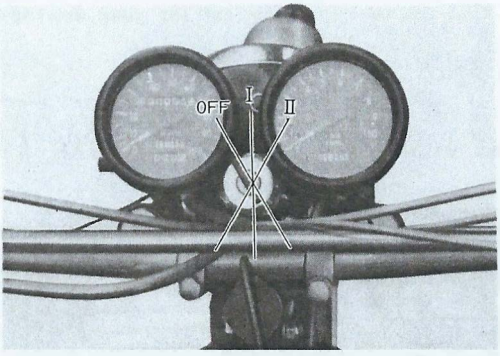
○ How to adjust the rear cushion

Insert the screwdriver (service tool) butt end of the blade into the adjusting hole and then turn it in order to change the position of the toothed notch.

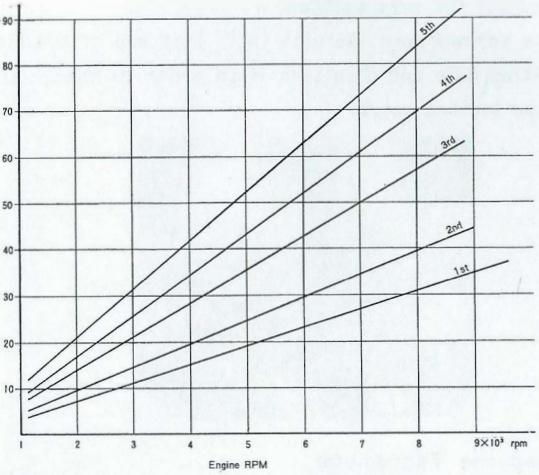


(7) How to Read the Tachometer

A tachometer is provided so that the rider can easily maintain engine RPM sufficient to keep the engine within the power curve. The standard Yamaha DT1-E is designed to run best in the power range between 3,000 rpm and 7,000 rpm.



The relationship between engine RPM's and gears is shown in the diagram on the next page.



3. Pre-operation Check

You should check the following points before usage.

(1) Is the fuel sufficient ?

Make sure that the fuel is sufficient for your driving plan. Fill the fuel tank with gasoline only.

(2) Is the oil sufficient ?

If the oil is below the center hole on the glass view port, refill the oil tank with Yamaha Autolube Oil or SAE #30 detergent motor oil.

(3) Is the tire pressure correct ?

The wrong tire pressure affects riding comfort, steering, and life of tires.

Correct tire pressure:

Front-13 lbs/in² (0.9 kg/cm²)	}	For on-the-road-riding
Rear -16 lbs/in² (1.1 kg/cm²)		
Front-8.5 lbs/in² (0.6 kg/cm²)	}	For off-the-road-riding
Rear -10 lbs/in² (0.7 kg/cm²)		

(4) Do the front and rear brakes work effectively ?

Try the brake lever (right handlebar) and the foot brake (on the right side of the engine). Check to see if the stop light is functioning.

(5) Do the lights and horn function well ?

Check the horn, flasher light, stoplight, headlight, meter lamp, etc.

4. Operation

(1) Starting the Engine

The Yamaha Enduro 250 DT1-E employs the kick starter system. The carburetor is provided with a starting system to produce the rich air-fuel mixture required for easy starting of the engine. It assures quick starting even in extremely cold weather.

Preparation for Starting

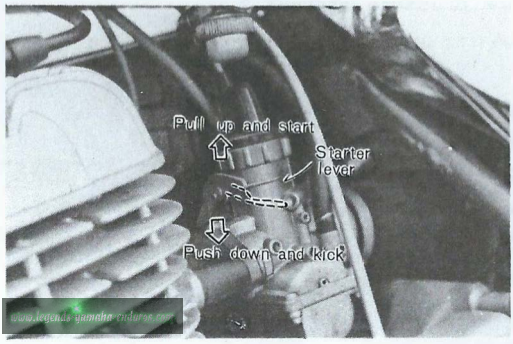
- ○ Turn the fuel cock lever to the "ON" position.
- ○ Insert the main switch key and turn it to the "Ignition" position. Make sure the neutral light is on.

  The 250 DT1-E is equipped with a primary kick starter. The engine can be started by kicking the kick pedal when in neutral or by disengaging the clutch first if the transmission is in gear.

Starting When the Engine is Cold

Most engines are more difficult to start in cold weather. For easiest starting, a richer mixture of gas/air can be obtained by operating the starter lever.

- ○ Depress the starter lever.
- ○ Start the engine by kicking the kick pedal with the accelerator grip closed.



Starting When the Engine is Warm

When the engine is still warm from running or in warm weather:

- O Don't use the starter lever.
- O Slightly open the accelerator grip, and kick the kick pedal.

Warming Up

It is very important to allow a warming-up period of 2 minutes or so after starting the engine.

When the engine has started with the starter lever depressed, release it after starting. Keep the accelerator grip open until the engine begins to run smoothly.

Correct engine warm-up, along with periodic inspection, will assure a longer service life from your engine.

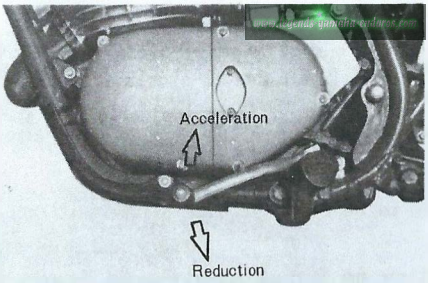
(2) Operation Procedure

Shifting Gears

The Yamaha 250 DT1-E is equipped with a foot-operated, 5-speed transmission. The purpose of the transmission is to change the ratio of engine RPM (driving power) and speed by means of the various gear combination available.

To shift into NEUTRAL, move the toe section of the change pedal downward into 1st and then raise it slightly to the neutral detent. The neutral position is between the low and the second gear position.

FIFTH
FOURTH
THIRD
SECOND
NEUTRAL
LOW



Acceleration

- O Pull in the clutch lever to disengage the clutch.
- O Depress the toe section of the change pedal down into LOW.
- O Slowly twist the accelerator grip (the engine speed begins to increase), and release the clutch lever gently. Done properly, the machine will accelerate smoothly.

Shifting

After starting off, accelerate to approximately 15 mph (20 km/h)

- O Disengage the clutch while closing the accelerator grip.
- O Shift into SECOND by raise in the toe section of the change pedal one full position.
  (In this case, the neutral position is bypassed.)
- O Increase engine speed slowly and release the clutch lever. Accelerate to approximately 30~35 mph (50 km/h) and shift into THIRD.
- O Decelerate by reversing the above procedure. Close the accelerator grip, bisengage the clutch, and then depress the change pedal.

No tachometer nor speedometer is provide for the DT1-MX. Shift gears according to the engine speed.

Off-the-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. It is advisable to remove all safety parts before you start riding.

Parts to be removed: Headlight, taillight, speedometer, tachometer, battery and side stand.

Caution on Riding over Paved Roads at High Speeds:

The DT1-E 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 not to slip your motorcycle when you are cornering at high speeds and at sharp angles.

(3) Stopping

To stop the machine, gradually reduce speed by closing the throttle and apply the front and rear brakes simultaneously.

Remember to apply the front and rear brakes together when running at high speeds. Applying only one brake may cause skidding or overturning.

5. Break in Procedure

To secure a longer life for your Yamaha 250 DT1-E, a certain period of breaking-in operation is very important.

During the first 600 miles (1,000 km), the various parts of the engine wear and polish themselves to the optimum operating clearances. It is important to avoid prolonged full throttle operation which might result in excessive heating during this critical period. Care taken at this time will result in longer life, better dependability and higher performance.

V. Inspection and Service

Regular inspection and maintenance will keep your motorcycle in top condition.

Daily or periodic inspection by yourself or your Yamaha dealer not only assures a longer life of your motorcycle but prevents any machine trouble.

Remember to have the periodic inspection by your Yamaha dealer; otherwise, your machine will not be entitled to the Yamaha warranty plan.

It is advisable, in addition to the periodic inspection at your Yamaha dealer according to the Periodic Inspection Card, that you check the machine parts listed below every 30~60 days.

1. Periodic Inspection Guide

	Check point	Instructions	P. Ref.
1	Front and rear brake	Adjustment	24, 25
2	Clutch	Adjustment	26
3	Gear oil	Level and replacement	28
4	Battery electrolyte	Refilling	29
5	Spark plug	Cleaning	30
6	Air cleaner	Checking and cleaning	31
7	Carburetor	Cleaning	32
8	Drive chain	Adjustment and oiling	33
9	Muffler	Cleaning	35
10	Cylinder head and piston	Cleaning	35
11	Screws, bolts and nuts	Retightening	36

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

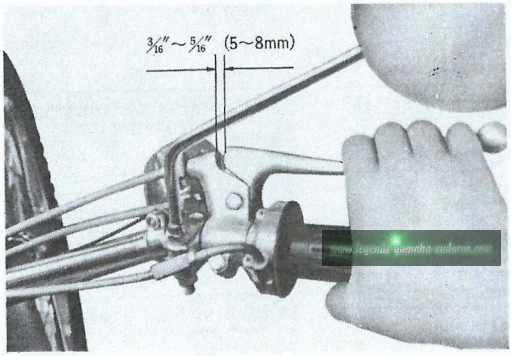
2. Inspection and Adjustments

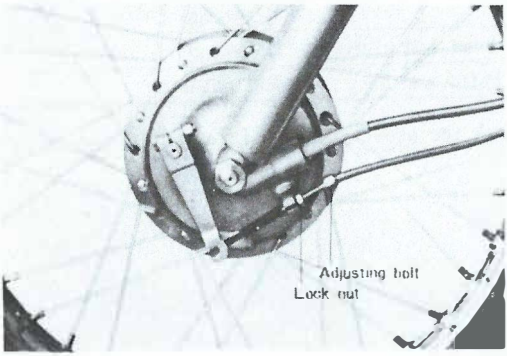
The methods of inspection and adjustment are discussed below. This information will be of value in your daily inspections.

Adjusting the Brakes

Front Brake:

The correct free play of the front brake lever is 0.2 to 0.3 in. (5 to 8 mm). To adjust, turn the cable adjusting bolt on the front brake hub, and/or the adjuster located at the lever. After adjustment, be sure to tighten the lock nut fully.

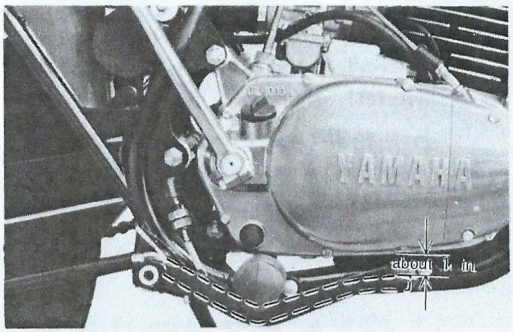


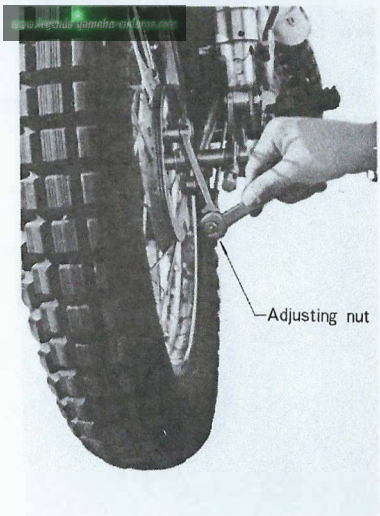


Rear Brake:

The corretc free play of the rear brake pedal is approximately 1 in. (25 mm). To adjust the play, turn the adjusting nut attached to the rear brake cable end one-half turn at a time.

After the adjustment, check the stoplight to see if it functions properly.





NOTE: This adjustment must be checked any time the chain is adjusted or the rear wheel is removed.

Checking the Brake Lining:

Disassemble the wheel assembly every 3,000 miles (5,000 km), check it for wear, and clean the brake shoe and brake drum. Take care not to get any oil on the lining friction surface.

Adjusting the Clutch

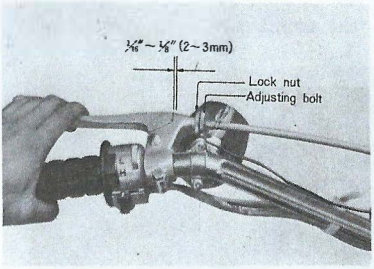
The clutch lever should have .080 to .120 in. (2 to 3 mm) free play to maintain full pressure against the clutch facing. If the play is excessive, the clutch will not disengage completely. If the free play is insufficient, the clutch will slip.

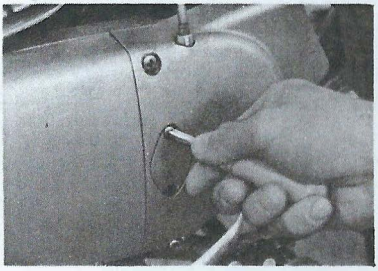
How to Adjust the Clutch:

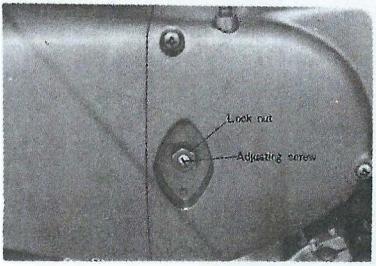
To adjust the clutch, turn the adjusting bolt attached to the clutch lever holder. After the adjustment, fully tighten the lock nut.

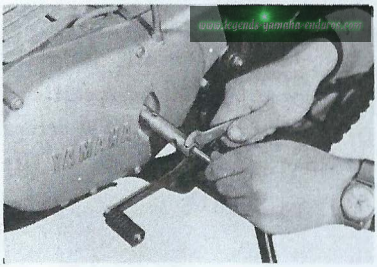
Precision Adjustment Method:

a. Remove the clutch adjusting cover from the left side of the crankcase cover.
b. Loosen the clutch adjusting screw (turn it to the left), and then tighten it slowly by turning it clockwise.
c. Back it off ¼ turn from a lightly seated position, and lock it with the lock nut.
d. Then adjust the play of the clutch cable with the adjusting bolt attached to the clutch lever holder.


1/16" ~ 1/8" (2~3mm)
Lock nut
Adjusting bolt

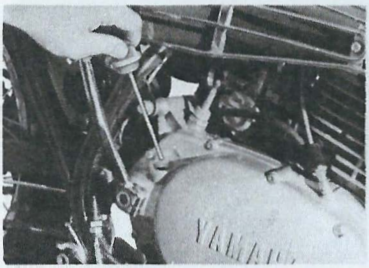



Lock nut
Adjusting screw

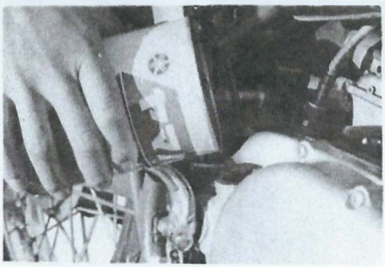

www.legends-yamaha-enduro.com

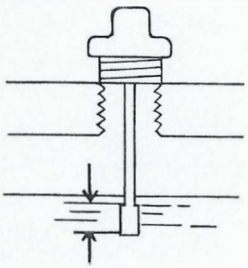
Replacing the Gear Oil

During the break-in period, replace the gear oil after 30 days after the date of purchase or after 300 miles (500 km) running.
After the first time, replacement should be made every three months or 1,200 miles (2,000 km).
To drain the oil from the bottom of the crankcase, remove the oil drain plug.



After draining the oil, fully tighten the oil drain bolt, and fill with new oil up to the specified level.
Oil·····SAE 10 W/30 detergent motor oil.
Oil Amount·····1 qt. (1 litre)





Keep the oil level between these levels.

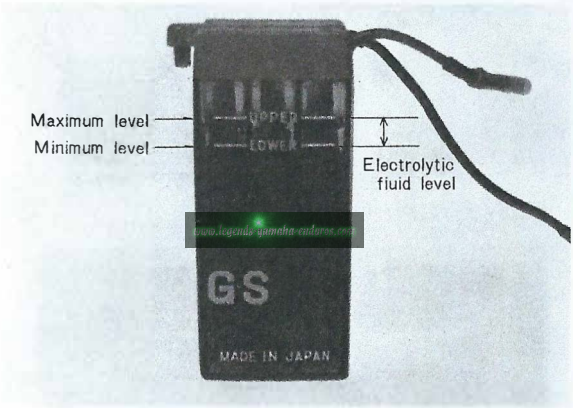
Checking the Battery electrolyte

If the battery electrolyte is below the minimum level, remove the battery and add distilled water.

Check the overflow pipe to make sure it is not plugged or pinched shut.

If your motorcycle will not be used for several months, remove the battery and keep it in dry, cool place, or have it kept in a service shop.

If stored for more than 60 days, it should receive an occasional recharge. Before reinstallation, it should be fully charged.



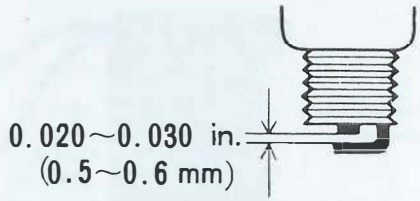
Checking the Spark Plug

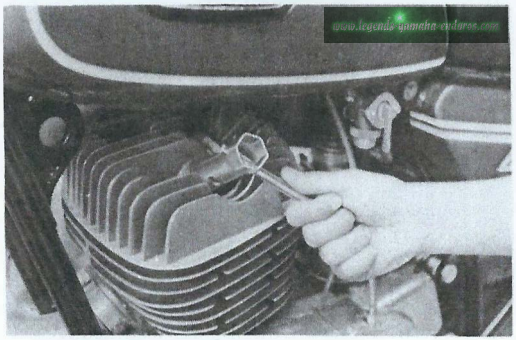
A spark plug ignites the air-fuel mixture in the cylinder. A dirty plug causes hard starting, engine misfiring and other problems. Clean carbon from the electrodes and adjust the point gap.

- Remove carbon build-up, with a wire brush or a wire.
- Adjust the spark plug point gap to 0.020~0.024 in. (0.5~0.6 mm).

Standard Spark Plug : B-7E

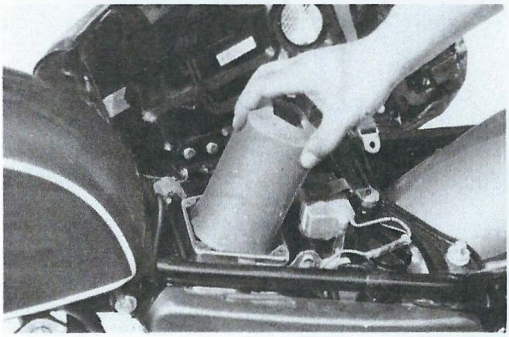
- Porcelain around the center electrode should be a light tan color.
- Replace the spark plug if the electrodes and porcelain are eroded or chacked. If your machine is frequently ridden at low speeds, the spark plug will become somewhat oily and sooty. Replace it with a hotter type.





Cleaning the Air Cleaner

An air cleaner filters grit and other impurities from the air. If you drive often on dusty roads, be sure to clean it at least once a month. To remove the air filter, open the seat cover and remove the air cleaner mounting screw. The element can then be removed. The DT1-E's air cleaner is easily cleaned. Wash it in gasoline and then soak it in a mixture of gas/oil (approximately 20:1). Squeeze all surplus fluid from the filter before reinstallation.

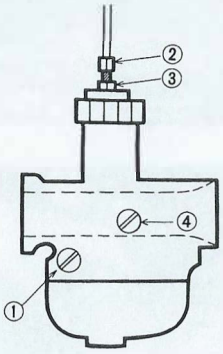


Checking the Carburetor

Each carburetor is set by the factory after careful tests.
Except for the following, do not change the carburetor setting without consulting your local Yamaha dealer.

a. Idling Speed Adjustments

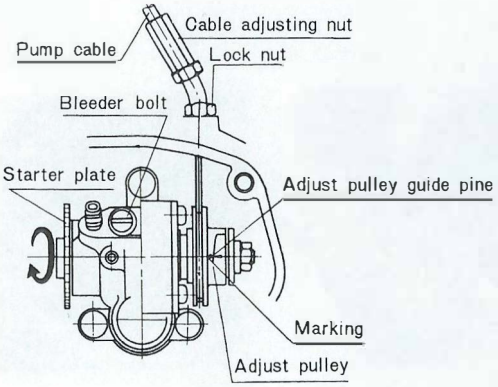
- O Lightly tighten the pilot air screw (1), and then back it off it 1½ turns.
- O Slightly loosen the adjusting screw of the throttle cable A connected to the accelerator grip, and start the engine.
- O After warming up the engine, turn the throttle stop screw (4) so that engine speed increases to 1,300 rpm.
  After this adjustment, loosen lock nut (3) to adjust the play of throttle cable B to 1/32″ in. (0.5~1.0 mm); and turn throttle cable adjuster (2) while pulling throttle cable B to check the adjustment. Then lock throttle cable B with lock nut ③.



b. Adjusting the Pump Cable
  After adjustming the carbretor, adjust the pump cable which is coupled with the throttle valve.

- O Slightly turn the accelerator grip from the closed position so that free play of the accelerator grip is nil. (In other words, the throttle valve is ready to open after only another slight turning of the throttle.)

○ Turn the pump cable adjusting nut so that the marking on the adjusting pulley is aligned with the guide pin.



Adjusting the Drive Chain

The drive chain should have approximately 0.8 in. (20 mm) up and down play at the center of the lower section with the rear wheel on the ground. Since a dirty chain causes excessive sprocket wear, apply oil at regular intervals. In addition, wash it in gasoline before oiling at every periodic inspection.

Adjusting Chain Tension:

a. Loosen the rear brake adjusting screw.

b. Loosen the tension bar nuts.

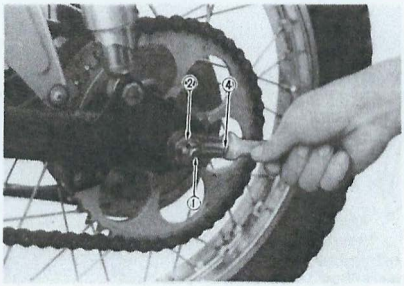
c. Loosen the rear axle outside (1) and inside (2) nuts.

d. Loosen the chain adjusting bolt lock nuts, (4) and shift the wheel shaft so that both ends of the wheel shaft are positioned evenly by utilizing the marks on the swing arms.

e. After adjusting, tighten the tension bar lock nuts ④, and axle nuts ① & ②.

f. Adjust the play of the brake pedal.

* After these adjustments, check the play of the brake pedal and function of the stoplight.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④
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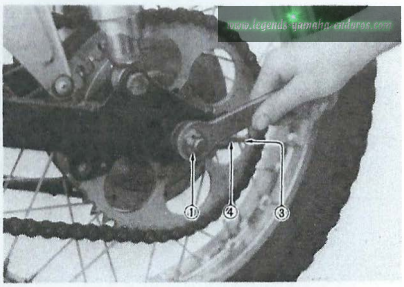
www.legends-gamma-enduros.com
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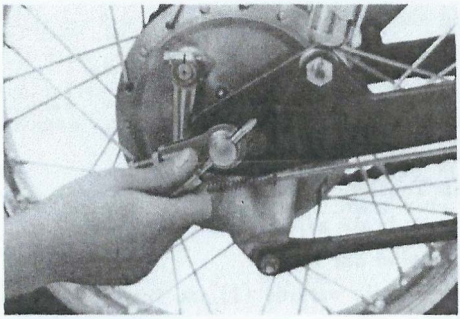
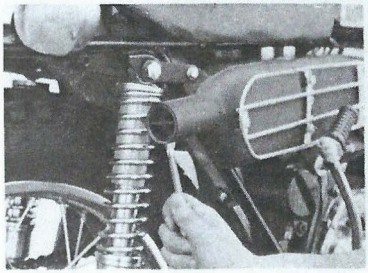


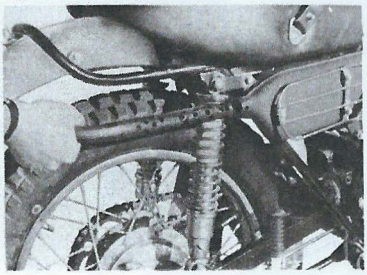
Cleaning the Muffler

To remove the inner cylinder from the muffler, remove the set screw and pull out the tail pipe.

Remove carbon with a wire brush.

Check the inner bore for clogging. If it is clogged, clean it with a wire.





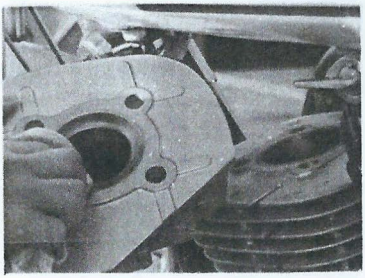
Cleaning the Cylinder Head and Piston

Carbon accumulations around the cylinder head and piston will result in loss of power, engine knock, overheating, and other problems.

a. Remove the cylinder head and remove carbon from the combustion chamber.

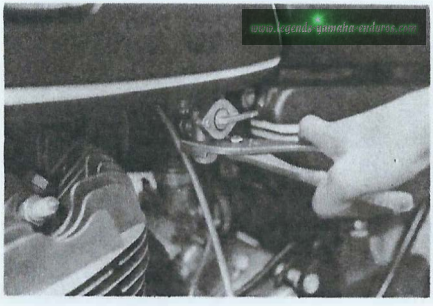
b. Remove carbon from the piston head.
   To clean them, use a wire brush or scraper and rags dampened with solvent.

c. The head bolts must be torqude when the head is reinstalled.
   Torque the bolts in pattern to a setting of 30 ft/lbs.



Cleaning the Fuel Cock Filter

The fuel cock filter removes impurities from gasoline before they flow into the carburetor. A dirty filter clogs the system, and as a result, the engine will not run properly. Clean it from time to time. Remove the cup from the fuel cock and remove the filter. Wash it carefully in gasoline and reinstall.



Retightening Screws, Bolts and Nuts

Check the screws, bolts and nuts in the parts listed below and retighten them if necessary.

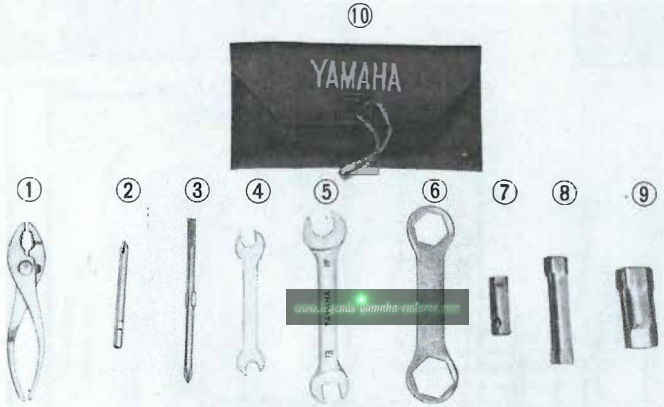
Front and rear wheels
Foot rests
Swing arm shaft
Muffler
Side stand
Engine mountings
Carburetor
Air cleaner cover
Exhaust ring nuts
Rear cushion
Handlebars

Greasing and Oiling

	Parts to be lubricated	Distance of driving at 1st lubr., miles	Lubrication interval, miles	Type of Lubricant
1	Front brake cam shaft	600	2,000	cup grease
2	Rear brake cam shaft	600	2,000	〃
3	Front brake cable	600	2,000	motor oil
4	Rear brake cable	600	2,000	〃
5	Accelerator grip	600	2,000	cup grease

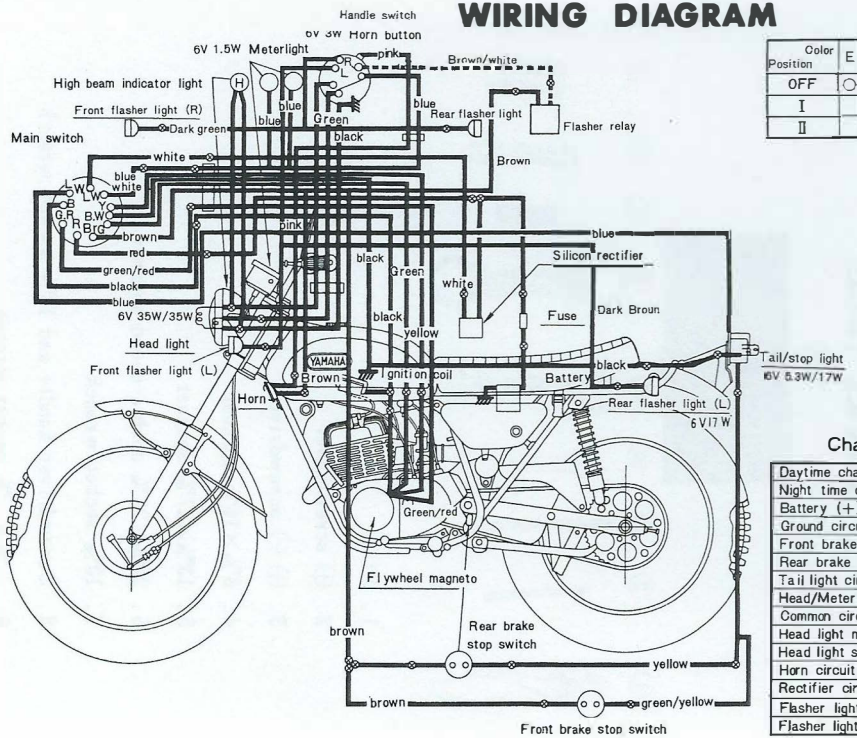
6	Stand shaft	600	2,000	cup grease
7	Brake linkage	600	2,000	〃
8	Drive chain	600	600	motor oil
9	Gear oil	600	1,200	〃
10	Swinging arm shaft	600	2,000	cup grease

SERVICE TOOLS



1. Plier
2. ⊕ screwdriver
3. ⊕ ⊖ screwdriver
4. 8㎜×10㎜ spanner
5. 13㎜×17㎜ spanner
6. 22㎜×26㎜ double-ended spanner
7. 10㎜ socket wrench
8. Screwdriver handle and 13㎜ socket wrench
9. ㎜× ㎜ socket wrench
10. Tool bag

WIRING DIAGRAM



Color / Position	E	B	R	Br	L	G	W	GR	LW	Y
OFF	○	○								
I			○	○		○	○			
II			○	○	○		○	○	○	○

Chart of wire colors

Daytime charging circuit	Green
Night time charging circuit	Green/Red
Battery (+) circuit	Red
Ground circuit	Black
Front brake stop light circuit	Green/Yellow
Rear brake stop light circuit	Yellow
Tail light circuit	Blue
Head/Meter light circuit	Blue(L.W)
Common circuit	Brown
Head light main circuit	Yellow
Head light sub circuit	Green
Horn circuit	Pink
Rectifier circuit	White
Flasher light R	Dark green
Flasher light L	Dark brown

The new YAMAHA Enduro 250 DT1-MX is designed as a high-performance motocrosser for racing.

The DT1-MX is converted into a fully-equipped motocrosser with the DT1-E G.Y.T. kit parts.

It features a rugged, powerful, 2-stroke single cylinder engine, and Autolube, the revolutionary lubricating system developed by YAMAHA Technical Research Laboratory and proven in all YAMAHA models.

You are kindly requested to use this supplementary manual together with the DT1-E rider's manual for complete information.

YAMAHA MOTOR CO., LTD.

CONTENTS

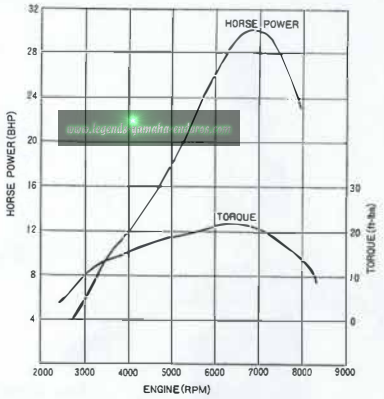
1. Specifications

Dimensions:	
Overall length	82.7 in. (2,100 mm)
Overall width	35.0 in. (890 mm)
Overall height	46.7 in. (1,185 mm)
Wheelbase	55.1 in. (1,390mm)
Min. ground clearance	10.0 in. (255 mm)
Weight:	
Net	232 lbs. (105 kg)
Performance:	
Min. turning radius	78.7 in. (2,000 mm)
Braking distance	50.5 ft at 31 mph. (15.4 m at 50 km/h)
Engine:	
Model	DT1
Type	2-stroke gasoline
Lubricating system	(YAMAHA Autolube) and Mixed Gasoline
Cylinder	Single, forward inclined, 5 port
Displacement	15 cu., in. (246 cc)
Bore × Stroke	2.76×2.52 in. (70×64 mm.)
Compression ratio	7.0 : 1
Max. power	30 BHP/7,000 r.p.m
Max. torque	22.4ft-lbs/6,500r.p.m (3.1kg-m/6,500r.p.m)
Starting	Primary-coupled kick starter system
Ignition system	Flywheel magneto ignition system
Ignition timing	2.3 mm. B.T.D.C.
Carburetor:	
Type	VM30SH
M.J.	#200
J.N.	5DP7−3 stages

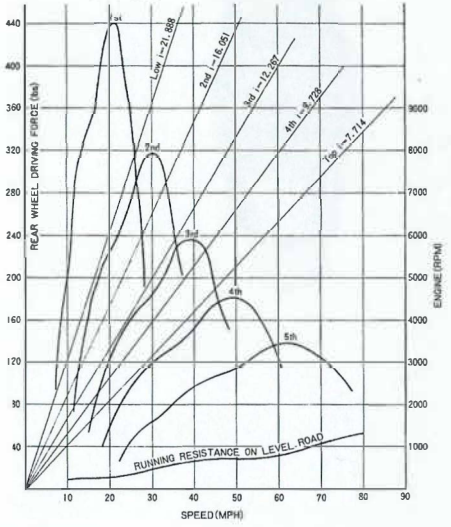
Air cleaner:	Wet, foam rubber
Spark plug:	B-10EN
Chassis:	
Frame	Tubular-Double loop
Suspension Front	Telescopic
Rear	Swinging arm
Transmission:	
Clutch	Wet, multiple-disk
Primary reduction system	Gear
Primary reduction ratio	65 / 21 = 3.095
Secondary reduction system	Chain
Secondary reduction ratio	44 / 14 = 3.143
Gear shifting type	Constant mesh, 5-speed
Gear ratio 1st	36 / 16 = 2.250
2nd	33 / 20 = 1.650
3rd	29 / 23 = 1.261
4th	26 / 26 = 1.000
5th	23 / 29 = 0.793
Steering:	
Steering angle	49°
Caster	60.5°
Trail	5.39 in. (137 mm)
Tire size:	
Front	2.75-21-4PR
Rear	4.00-18-4PR
Dynamo model:	FZA-1BL
Tanks:	
Gasoline tank capacity	2.5 gals. (9.5 ℓ)
Oil tank capacity	1.7 qts. (1.6 ℓ)

2. Performance Curves

DT1-MX PERFORMANCE CURVES

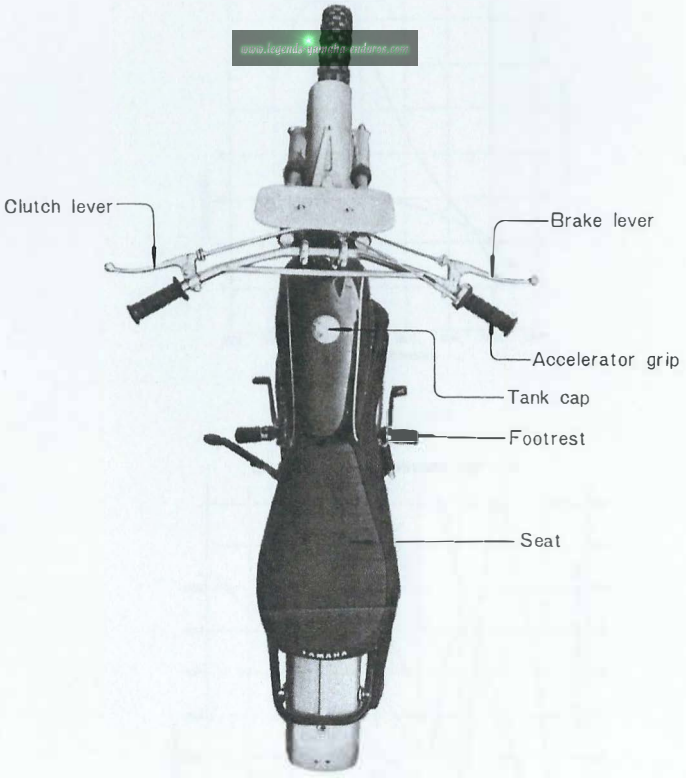


DT1-MX DRIVING FORCE CURVES

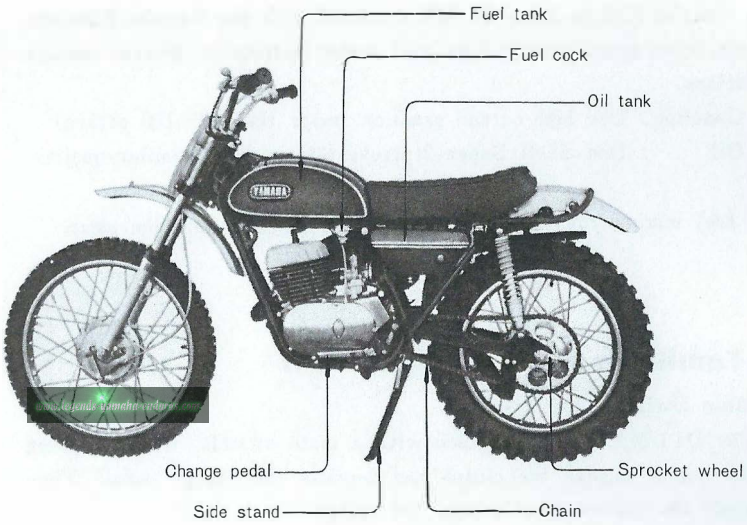


3. Nomenclature

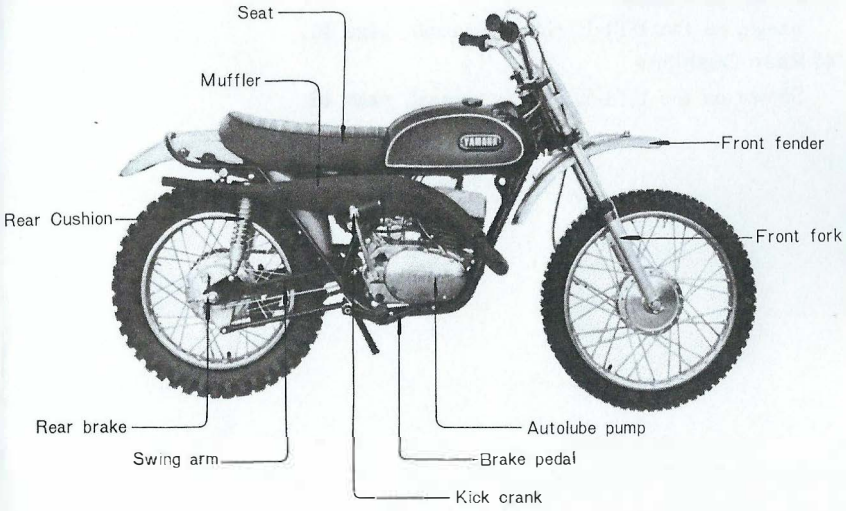
(DT I-MX)



(DT I-MX)


Fuel tank
Fuel cock
Oil tank
Change pedal
Side stand
Sprocket wheel
Chain

(DT I-MX)


Seat
Muffler
Front fender
Rear Cushion
Front fork
Rear brake
Swing arm
Autolube pump
Brake pedal
Kick crank

4. Gasoline and Oil

The Yamaha Enduro 250 DT1-MX equipped with the Yamaha Autolube system, uses mixed gasoline as well under extremely obverse masing conditions.

Gasoline: Use high-octane gasoline (more than 98~100 octane)
Oil : Use Shell Super 2-stroke oil or oil of similar quality.

The fuel mixing ratio is 15 : 1 when not using the Autolube pump.

5. Familiarization of Equipment

(1) Main Switch

The DT1-MX is not provided with a main switch. When stopping the engine engage the clutch and depress the change pedal. Then apply the brake and disengage the clutch.

(2) Fuel Petcock

Shown on the DT1-E rider's manual, page 15.

(3) Steering Damper

Shown on the DT1-E rider's manual, page 16.

(4) Rear Cushions

Shown on the DT1-E rider's manual, page 16.

6. Transmission Gear Ratio

The DT1-MX is equipped with a foot-operated, 5-speed, crose-ratio transmission.

Primary reduction ratio·····65 / 21=3.095

Secondary reduction ratio·····44 / 14=3.143

	Transmission Gear Reduction Ratio	Total Reduction Ratio
1st	36 / 16=2.250	21.888
2nd	33 / 20=1.650	16.051
3rd	29 / 23=1.261	12.267
4th	26 / 26=1.000	9.728
5th	23 / 29=0.793	7.714

Oil ·····SAE 10W/30 detergent motor oil

Oil Amount ·····1 qt. (1 litre)

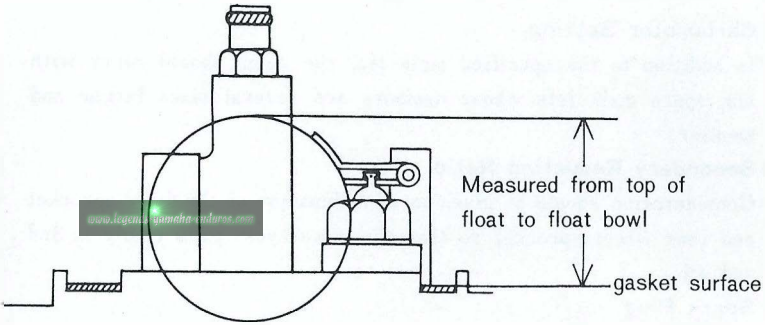
7. Service Data

Piston clearance ·····0.0018~0.0020 in. (0.045~0.050 mm)
Piston ring end gap·····0.007~0.015 in. (0.2~0.4 mm)
(When ring is fitted in cylinder)
Spark plug·····Standard B-10EN
Ignition timing ·····2.3 mm B.T.D.C.
Fuel mixing ratio
Autolube disconnected: 15 : 1 Oil in Gas
Carburetor Setting Table

Name of Parts	Abbreviation	Specifications
Main Jet	M. J	#200
Air Jet	A. J	0.5
Jet Needle	J. N	5DP7-3 stages
Needle Jet	N. J	0.2
Throttle Valve Cut Away	C. A	#3.5
Bypass Port Diameter	B. P	1.4
Pilot Outlet Diametes	P. O	0.6
Pilot Jet	P. J	#80
Air Screw	A. S	turns out=one turn
Valve Seat Diameter	V. S	2.5
Starter Jet	G. S	#60

Float Level Adjustment

The carburetor float level is checked by the Yamaha factory during assembly and testing. But rough riding, a worn needle valve, or bent float arm can cause the float level to fluctuate. If the float level raises, this will cause a rich fuel/air mixture that can cause poor performance and spark plug fouling. If the float level decreases, this can cause a lean fuel/air mixture that can result in engine damage. If the machine is subjected to continuous rough riding or many miles of travel, the float level should be checked and set regularly in the following manner.



1) Remove the float chamber body, and tusn over the mixing body. Let the float arm rest on the needle valve without compressing the spring.
2) Then measure the distance from the top of the float to the float bowl gasket surface.
   Standard measurement 24.0 mm
3) When the distance measures less than the recommended distance, bend the tang up. If it is greater, bend the tang down. (with carburetor body up side down.)

8. Main Points to be adjusted for racing

(1) Carburetor Setting

In addition to the specified main jet, the rider should carry with him spare main jets whose numbers are several sizes larger and smaller.

(2) Secondary Reduction Ratio

Consideration should be given to a combination of the drive sprocket and rear wheel sprocket so that the motorcycle pulls easily in 3rd and 4th.

(3) Spark Plug

Change the plug if neccessary by judging discoloration of the spark plug.

Choose the most suitable one from B-9EN, B-10EN, or B-11EN.

(4) Tire Pressure

Adjust the tire pressure according to track conditions and the rider's choice.

When the tire pressure is reduced below the specified value the tire may slip around the rim. To prevent this slipping of the tire, bead stoppers should be used.

(5) Front Fork

Adjust the front fork by adjusting the quantity or weight of oil. The oil amount is in the range of 210 to 220 cc each.

(6) Rear Cushions

Adjust the spring depending on the rider's choice.

(7) Handlebar

Loosen the handle lever holder before racing. It will protect the rider's hands or fingers from getting injured in case of an accidental crash during the race. (The lever can easily turn when the machine turns over)

9. Miscellaneous Notes

Racing demands the most out of the machine as well as high performance and extra durability.

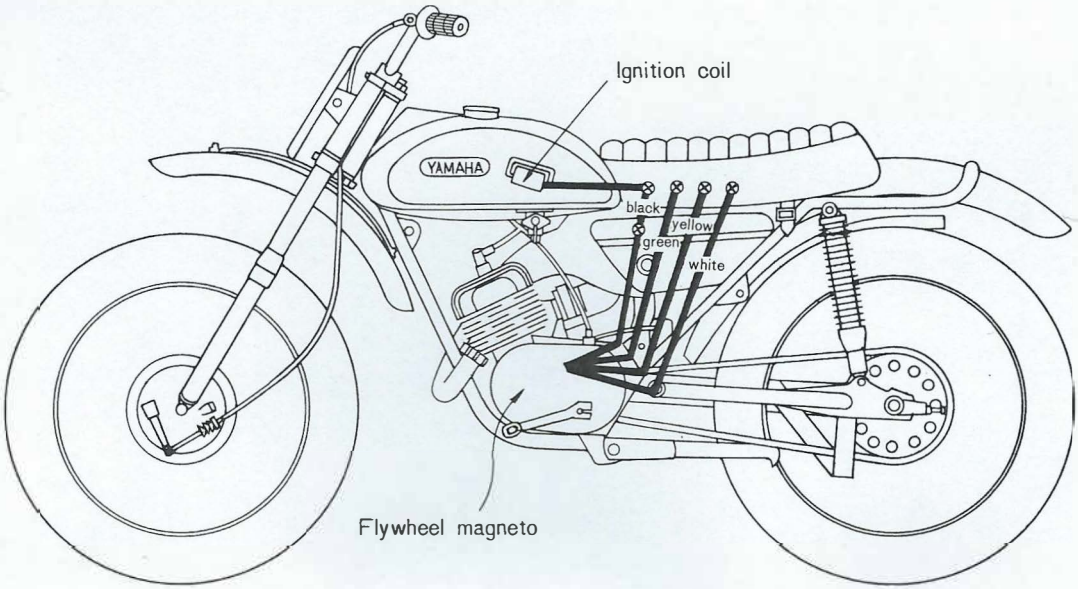
Accordingly, a thorough inspection and service of the machine before racing is very important.

In particular, the engine will be operated at high speeds for many consecutive hours. Hence, even a minor defect may result in engine troubles. Be sure to check and service the machine with special care prior to racing.

The DT1-MX tuned engine must be handled in the same manner as a brand new machine, so it requires a certain period breaking in.

○ The racer should devote the maximum possible time to inspection and service of the machine prior to racing "Thorough inspection and service are the first step to victory"

DT1-MX WIRING DIAGRAM

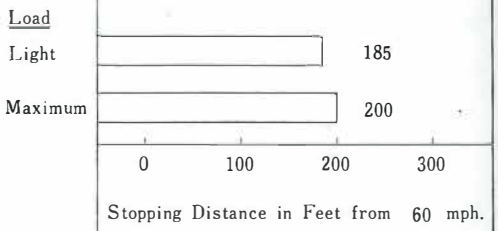


Stopping Distance

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 applies: Yamaha motorcycle DT1−E

A. Fully Operational Service Brake



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.

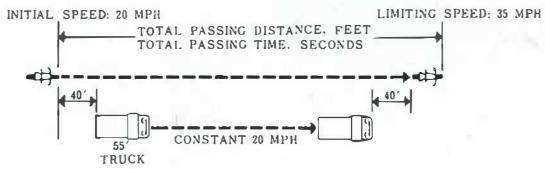
Description of vehicles to which this table applies: Yamaha motorcycle DT1−E

Summary table:

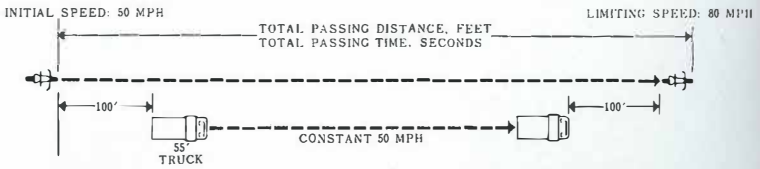
Low-speed pass····· 350 feet; 7.2 seconds

High-speed pass····· 1370 feet; 15.6 seconds

LOW-SPEED



HIGH-SPEED



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