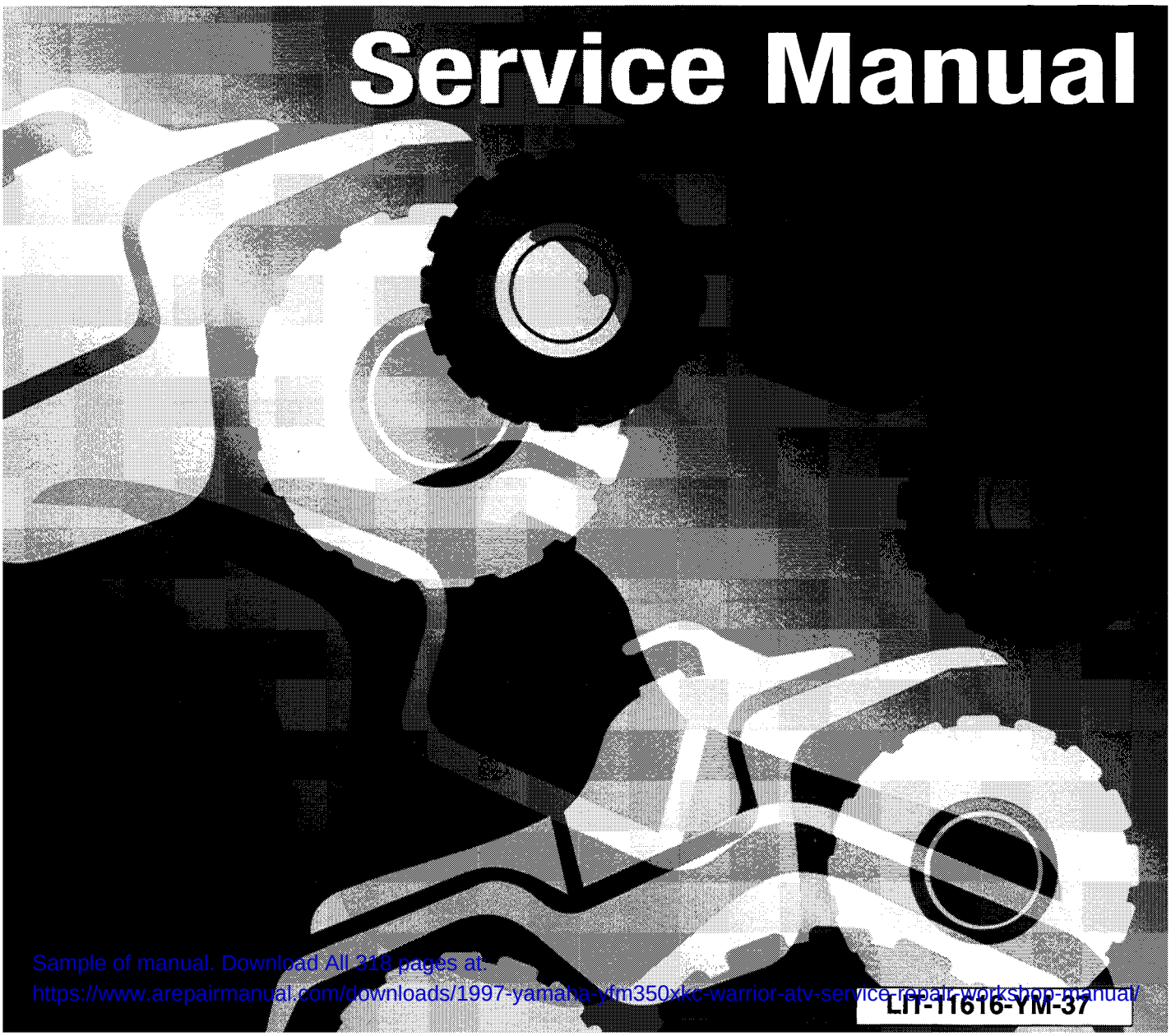
YAMAHA

YFM350X WARRIOR

Service Manual



LIT-11616-YM-37

YAMAHA

YFM350XKC

(for California)

SUPPLEMENTARY SERVICE MANUAL

LIT-11616-10-89 3GD-28197-15

FOREWORD

This Supplementary Service Manual has been prepared to introduce new service and data for the YFM350XKC. For complete service information procedures, it is necessary to use this Supplementary Service Manual together with the following manual.

YFM350XA SERVICE MANUAL (LIT-11616-07-50)
YFM350XE SUPPLEMENTARY SERVICE MANUAL (LIT-11616-08-60)
YFM350XJ SUPPLEMENTARY SERVICE MANUAL (LIT-11616-10-28)

YFM350XKC
SUPPLEMENTARY
SERVICE MANUAL

First Edition, April 1997

Printed in U.S.A.
LIT-11616-10-89

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Particularly important information is distinguished in this manual by the following notations.

⚠ The Safety Alert Symbol means ATTENTION! BECOME ALERT! YOUR SAFETY IS INVOLVED!

⚠ WARNING Failure to follow WARNING instructions could result in severe injury or death to the machine operator, a bystander or a person inspecting or repairing the machine.

CAUTION: A CAUTION indicates special precautions that must be taken to avoid damage to the machine.

NOTE: A NOTE provides key information to make procedures easier or clearer.

HOW TO USE THIS MANUAL

MANUAL ORGANIZATION

This manual is intended as a handy, easy-to-read reference book for the mechanic. It is divided into chapters, sections and sub-sections. Comprehensive explanations of all installation, removal, disassembly, assembly, repair and inspection procedures are laid out with the individual steps in sequential order.

PAGE FEATURES

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① : An abbreviation and symbol in the upper right corner of each page indicates the current chapter.

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⑤ : Important information such as fluids, special tools and torques are framed and marked with a corresponding symbol.

⑥ : A circled number refers to an illustrated part.

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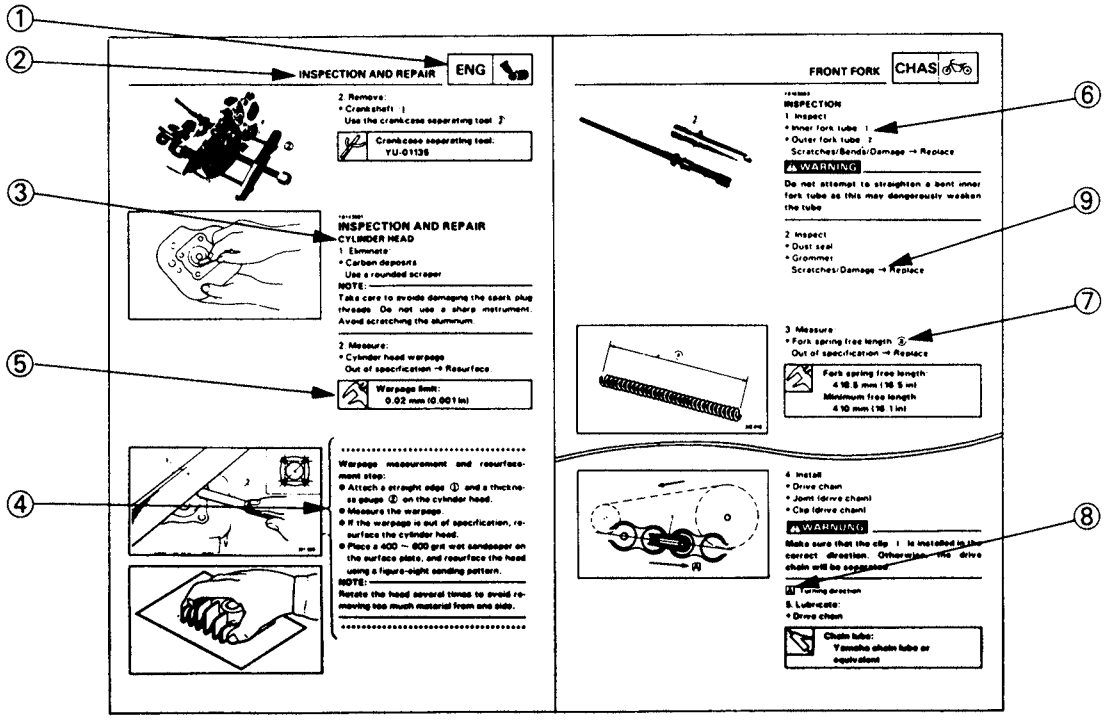
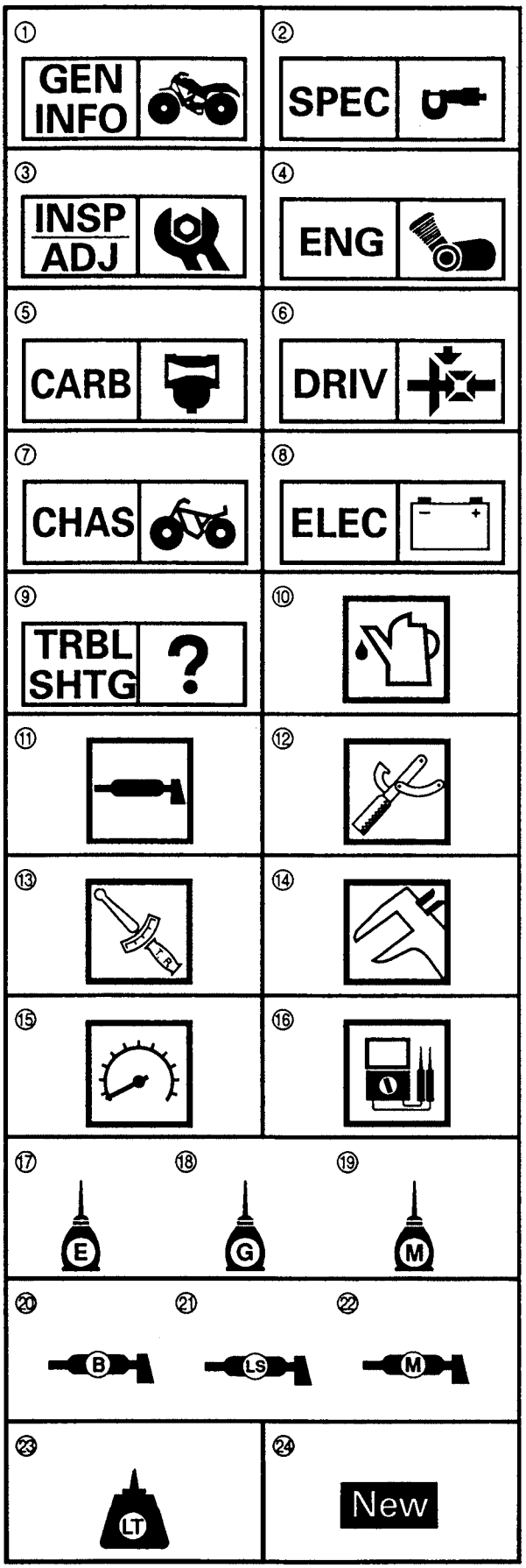
To help identify parts and clarify procedure steps, there are exploded diagrams at the start of each disassembly section.





ILLUSTRATED SYMBOLS

Illustrated symbols ① to ⑨ are printed on the top right of each page and indicate the subject of each chapter.

① General information
② Specifications
③ Periodic inspections and adjustments
④ Engine
⑤ Carburetion
⑥ Drive train
⑦ Chassis
⑧ Electrical
⑨ Troubleshooting

Illustrated symbols ⑩ to ⑯ are used to identify the specifications appearing in the text.

⑩ Filling fluid
⑪ Lubricant
⑫ Special tool
⑬ Torque
⑭ Wear limit, clearance
⑮ Engine speed
⑯ Ω, V, A

Illustrated symbols ⑰ to ㉒ in the exploded diagrams indicate the types of lubricants and lubrication points.

⑰ Apply engine oil
⑱ Apply gear oil
⑲ Apply molybdenum disulfide oil
⑳ Apply wheel bearing grease
㉑ Apply lightweight lithium-soap base grease
㉒ Apply molybdenum disulfide grease

Illustrated symbols ㉓ to ㉔ in the exploded diagrams indicate where to apply a locking agent ㉓ and when to install a new part ㉔.

㉓ Apply the locking agent (LOCTITE®)
㉔ Replace

CONTENTS

SPECIFICATIONS

GENERAL SPECIFICATIONS

Model	YFM350XKC
Model code:	3GDM

MAINTENANCE SPECIFICATIONS

ENGINE

Model		YFM350XKC
Carburetor:		
I. D. mark		3GD 10
Main jet	(M.J)	#145
Main air jet	(M.A.J)	0.6
Jet needle	(J.N)	5J31
Needle jet	(N.J)	O-6M
Pilot air jet	(P.A.J.1)	1.0
Pilot air jet	(P.A.J.2)	0.7
Pilot outlet	(P.O)	0.75
Pilot jet	(P.J)	#42.5
Bypass 1	(B.P.1)	0.8
Bypass 2	(B.P.2)	0.8
Bypass 3	(B.P.3)	0.8
Pilot screw	(P.S)	2
Valve seat size	(V.S)	2.5
Starter jet	(G.S.1)	#62.5
Throttle valve size	(Th.V)	#125
Float height	(F.H)	11.4 ~ 13.4 mm (0.45 ~ 0.53 in)
Fuel level	(F.L)	2 ~ 3 mm (0.08 ~ 0.12 in)
Engine idle speed		1,450 ~ 1,550 r/min
Intake vacuum		30.7 kPa (0.307 kg/cm^2, 4.4 psi)

PERIODIC INSPECTIONS AND ADJUSTMENTS

INTRODUCTION

This chapter includes all information necessary to perform recommended inspections and adjustments. These preventive maintenance procedures, if followed, will ensure more reliable machine operation and a longer service life. In addition, the need for costly overhaul work will be greatly reduced. This information applies to machines already in service as well as new machines that are being prepared for sale. All service technicians should be familiar with this entire chapter.

PERIODIC MAINTENANCE/LUBRICATION

ITEM	ROUTINE	INITIAL			EVERY	
		1 month	3 months	6 months	6 months	1 year
Valves*	• Check valve clearance. • Adjust if necessary.	○		○	○	○
Spark plug	• Check condition. • Adjust gap and clean. • Replace if necessary.	○	○	○	○	○
Air filter	• Clean. • Replace if necessary.	Every 20~40 hours (More often in wet or dusty areas.)				
Carburetor*	• Check and adjust idle speed/starter operation. • Adjust if necessary.		○	○	○	○
Crankcase breather system*	• Check breather hose for cracks or damage. • Replace if necessary.			○	○	○
Exhaust system*	• Check for leakage. • Retighten if necessary. • Replace gasket if necessary.			○	○	○
Fuel line*	• Check fuel hose for cracks or damage. • Replace if necessary.			○	○	○
Engine oil	• Replace (Warm engine before draining.)	○		○	○	○
Engine oil filter	• Clean. • Replace if necessary.			○	○	○
Engine oil strainer	• Clean.	○		○		○
Drive chain	• Check and adjust slack/alignment/clean/lube.	○	○	○	○	○
Brake*	• Check operation/fluid leakage/See NOTE. • Correct if necessary.	○	○	○	○	○
Clutch*	• Check operation. • Adjust if necessary.	○		○	○	○
Wheels*	• Check balance/damage/runout. • Replace if necessary.	○		○	○	○
Wheel bearings*	• Check bearing assembly for looseness/damage. • Replace if damaged.	○		○	○	○
Steering system*	• Check operation. • Repair if damaged. • Check toe-in. • Adjust if necessary.	○	○	○	○	○
Upper and lower arm pivot and steering shaft*	• Lubricate every 6 months.**			○	○	○
Rear arm pivot*	• Lubricate every 6 months.**			○	○	○

ITEM	ROUTINE	INITIAL			EVERY	
		1 month	3 months	6 months	6 months	1 year
Fittings and Fasteners*	• Check all chassis fittings and fasteners. • Correct if necessary.	○	○	○	○	○
Battery*	• Check specific gravity. • Check breather pipe for proper operation. • Correct if necessary.	○	○	○	○	○

* : It is recommended that these items be serviced by a Yamaha dealer.
** : Lithium soap base grease.

NOTE:
Brake fluid replacement:

1. When disassembling the master cylinder or caliper cylinder, replace the brake fluid. Normally check the brake fluid level and add fluid as required.
2. On the inner parts of the master cylinder and caliper cylinder, replace the oil seals every two years.
3. Replace the brake hoses every four years, or if cracked or damaged.

⚠ WARNING

Indicates a potential harzard that could result in serious injuly or death.

YAMAHA

YFM350XJ

SUPPLEMENTARY SERVICE MANUAL

LIT-11616-10-28

FOREWORD

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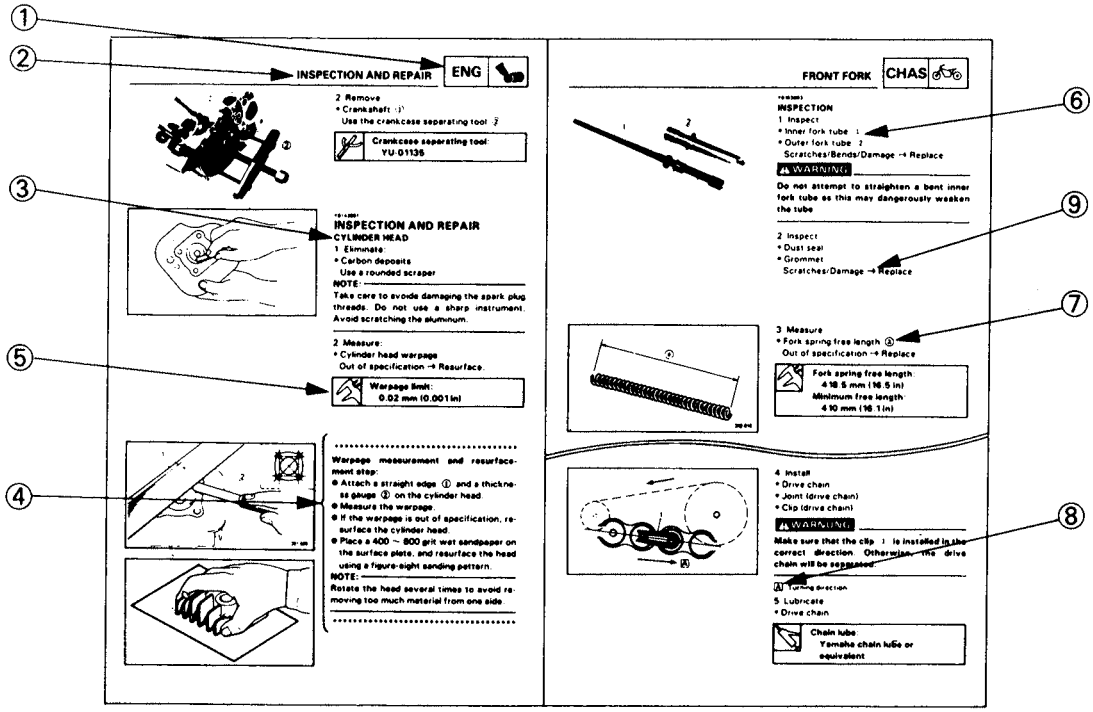

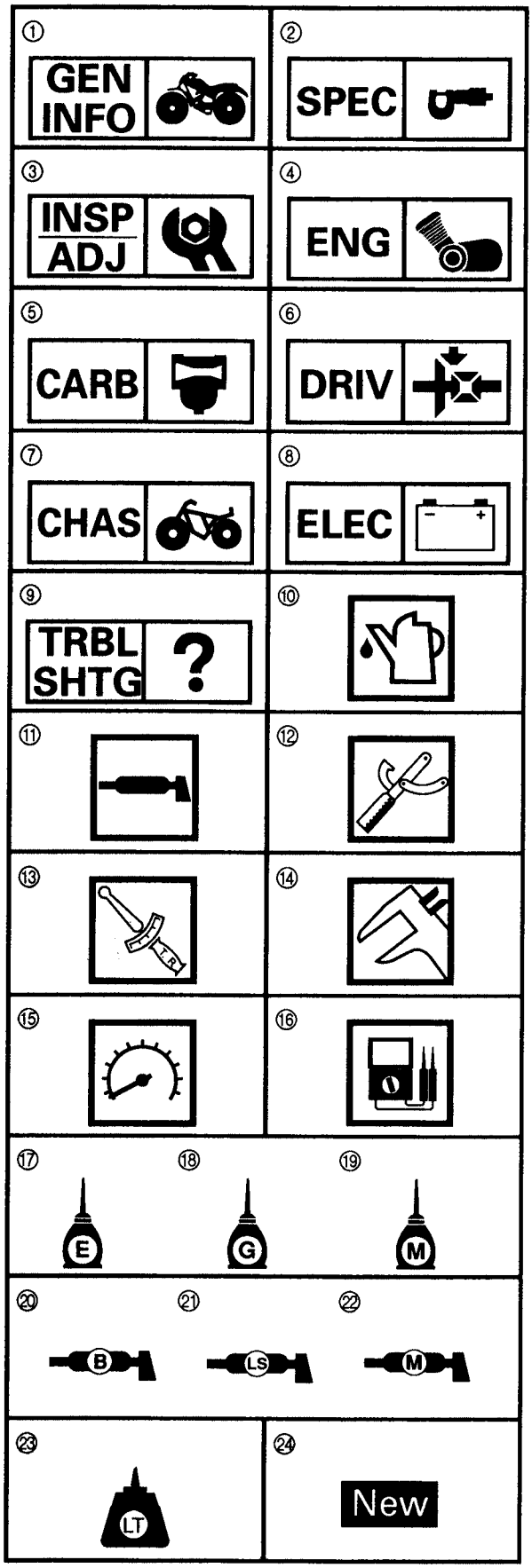

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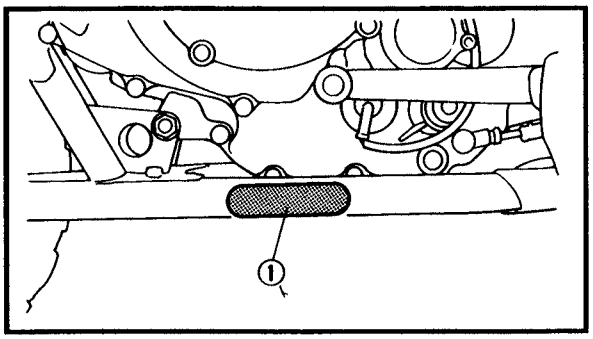


GENERAL INFORMATION

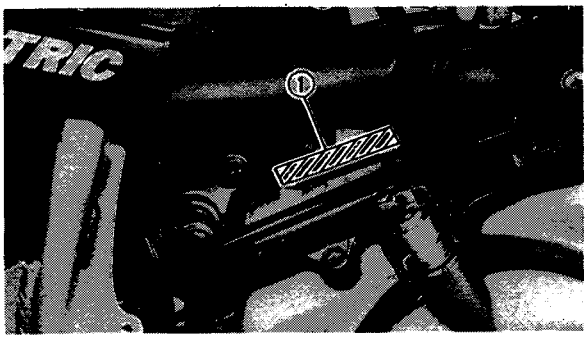
MACHINE IDENTIFICATION

VEHICLE IDENTIFICATION NUMBER

The vehicle identification number ① is stamped into the left side of the frame.

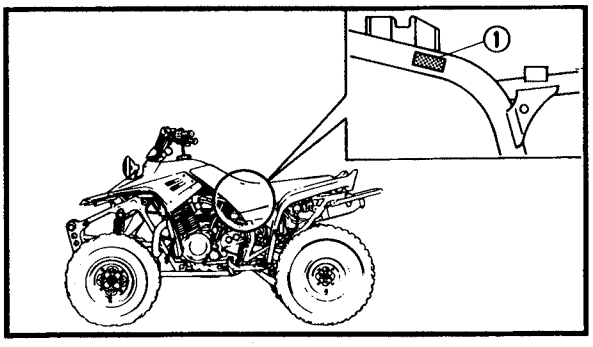
NOTE:

The vehicle identification number is used to identify the machine and may be used to register the machine with a licensing authority.



ENGINE SERIAL NUMBER

The engine serial number ① is stamped into the right side of the frame.

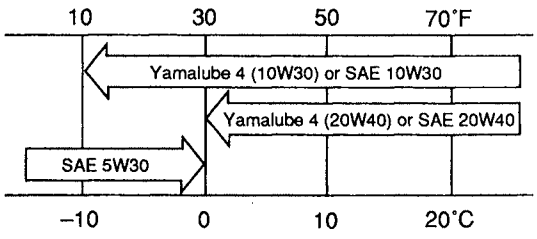


MODEL LABEL

The model label ① is affixed to the frame. This information will be needed to order spare parts.

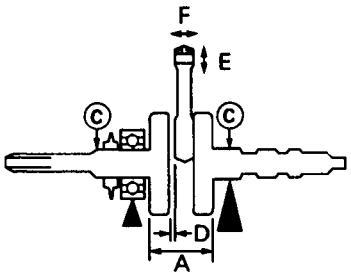
SPECIFICATIONS

GENERAL SPECIFICATIONS

Model		YFM350X
Model code:		3GDK
Engine:		
Engine type		Air-cooled 4-stroke, SOHC
Cylinder arrangement		Forward-inclined single cylinder
Displacement		348 cm^3
Bore × stroke		83.0 × 64.5 mm (3.27 × 2.54 in)
Compression ratio		9.2:1
Compression pressure (STD)		850 kPa (8.5 kg/cm^2, 121 psi) at 350 r/min
Starting system		Electric and recoil starter
Oil type or grade:		
Engine oil		 Yamalube 4 or SAE10W30 type SE motor oil, or SAE20W40 type SE motor oil
Tire:		
Type		Tubeless
Size	front	AT22 × 7-10
	rear	AT22 × 10-9
Manufacturer	front	DUNLOP
	rear	DUNLOP
Type	front	KT701
	rear	KT775B
Tire pressure (cold tire):		
Off-road riding	front	22 ~ 28 kPa (0.22 ~ 0.28 kg/cm^2, 3.13 ~ 3.98 psi)
	rear	22 ~ 28 kPa (0.22 ~ 0.28 kg/cm^2, 3.13 ~ 3.98 psi)
Brake:		
Front brake	type	Disc brake
	operation	Right hand operation
Rear brake	type	Disc brake
	operation	Left hand and right foot operation
Bulb wattage × quantity:		
Headlight		12 V 30 W / 30 W × 2
Taillight		12 V 3.8 W × 1
NEUTRAL		12 V 3.4 W × 1
REVERSE		12 V 3.4 W × 1

MAINTENANCE SPECIFICATIONS

ENGINE

Model		YFM350X
Crankshaft: 		
Crank width "A"		58.95 ~ 59.00 mm (2.321 ~ 2.323 in)
Runout limit "C"		0.06 mm (0.0024 in)
Big end side clearance "D"		0.35 ~ 0.85 mm (0.014 ~ 0.033 in)
Big end radial clearance "E"		0.010 ~ 0.025 mm (0.0004 ~ 0.0010 in)
Small end free play "F"		0.8 ~ 1.0 mm (0.03 ~ 0.04 in)
<Limit>		<2 mm (0.08 in)>
Carburetor:		
I. D. mark		3GD 00
Main jet	(M.J)	#145
Main air jet	(M.A.J)	0.6
Jet needle	(J.N)	5J18-3
Needle jet	(N.J)	O-6
Pilot air jet	(P.A.J.1)	1.0
Pilot air jet	(P.A.J.2)	0.7
Pilot outlet	(P.O)	0.75
Pilot jet	(P.J)	#42.5
Bypass 1	(B.P.1)	0.8
Bypass 2	(B.P.2)	0.8
Bypass 3	(B.P.3)	0.8
Pilot screw	(P.S)	2
Valve seat size	(V.S)	2.5
Starter jet	(G.S.1)	#62.5
Throttle valve size	(Th.V)	#125
Float height	(F.H)	11.4 ~ 13.4 mm (0.45 ~ 0.53 in)
Fuel level	(F.L)	2 ~ 3 mm (0.08 ~ 0.12 in)
Engine idle speed		1,450 ~ 1,550 r/min
Intake vacuum		34 kPa (0.34 kg/cm^2, 4.8 psi)

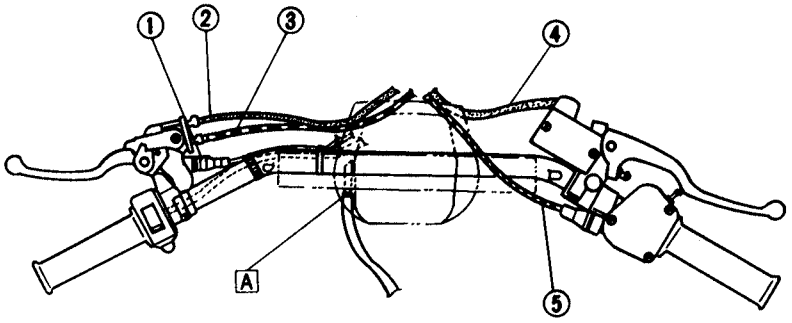
ELECTRICAL

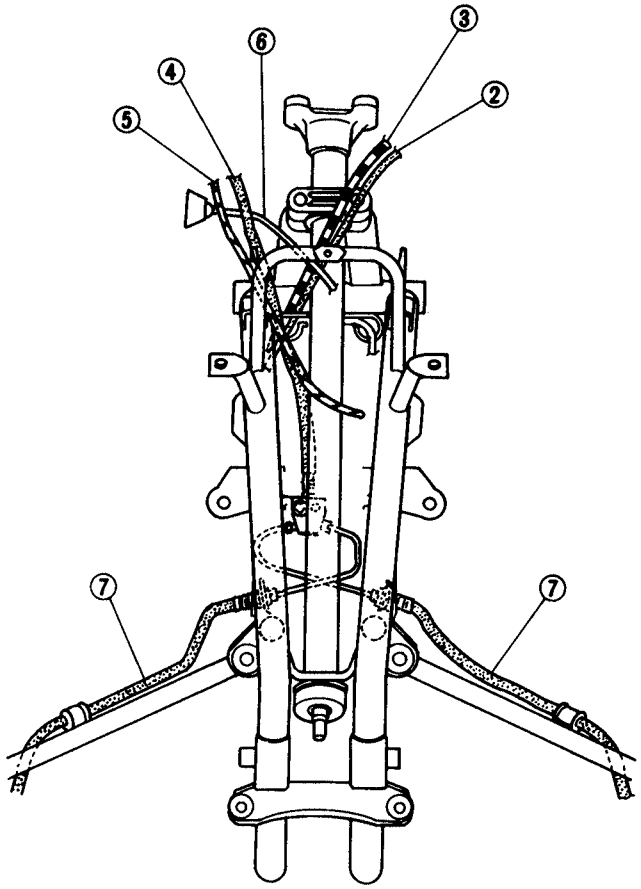
Model	YFM350X
C.D.I.:	
Magneto model / manufacturer	F3T43573/MITSUBISHI
Pickup coil resistance / color	459 ~ 561 Ω at 20°C (68°F) / Red – White
Source coil resistance / color	270 ~ 330 Ω at 20°C (68°F) / Brown – Green
C.D.I. unit model / manufacturer	F8T34271/MITSUBISHI
Voltage regulator:	
Type	Semi conductor-short circuit type
Model / manufacturer	SH640A-12/SHINDENGEN
No lead regulated voltage	14.2 ~ 15.2 V
Rectifier:	
Model / manufacturer	SH640A-12/SHINDENGEN
Capacity	20 A
Withstand voltage	240 V

CABLE ROUTING

① Clutch switch
② Rear brake cable
③ Clutch cable
④ Front brake hose
⑤ Throttle cable
⑥ Main switch lead
⑦ Brake hose

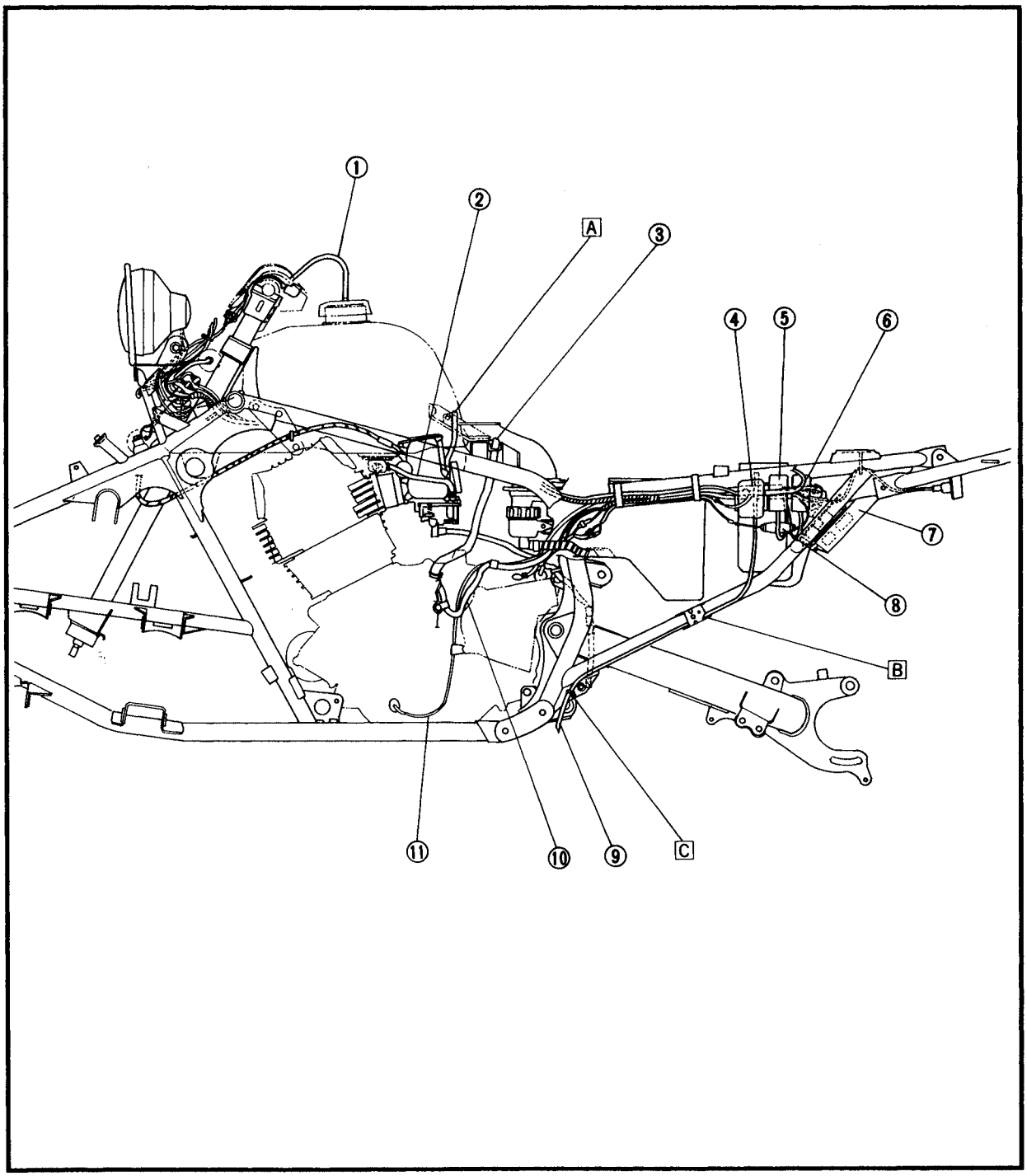
[A] Install the fuel tank breather hose into the hole of the handlebar cover.





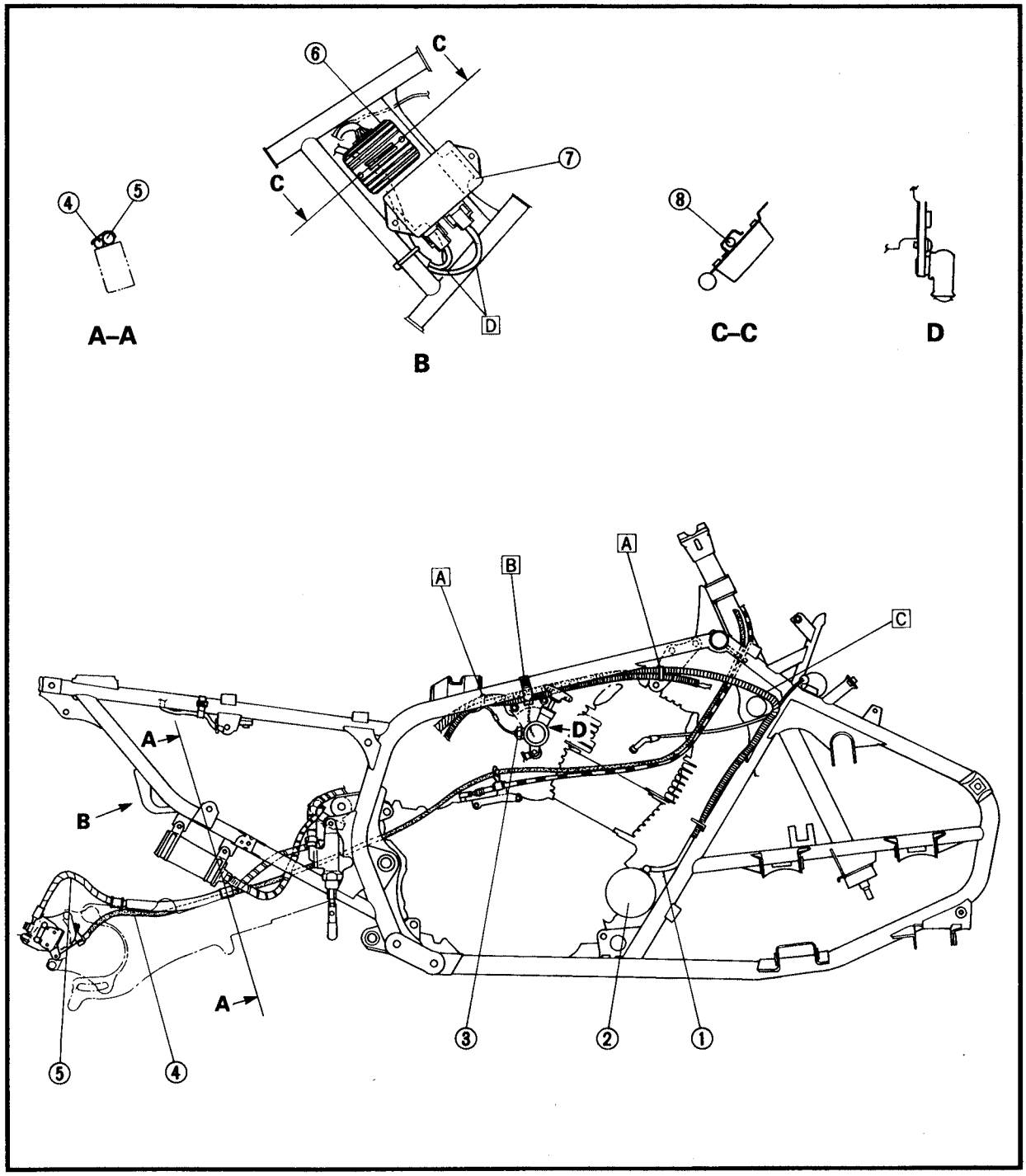
① Fuel tank breather hose
② Fuel hose
③ Crankcase breather hose
④ Starter relay
⑤ Starting circuit cut-off relay
⑥ Neutral relay
⑦ CDI unit
⑧ Main fuse
⑨ Battery breather hose
⑩ CDI magneto lead
⑪ Neutral switch lead

[A] Pass the air vent hose through hole on the fuel tank rubber damper.
[B] Pass the battery breather hose through the inside of frame bracket.
[C] Pass the battery breather hose through the guide.



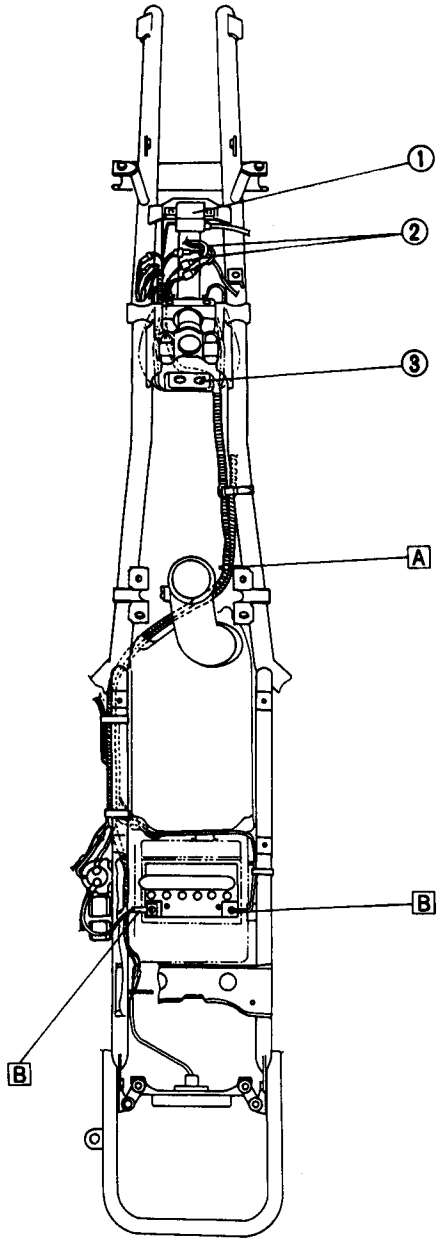
① Starter motor lead
② Starter motor
③ Lever switch
④ Rear brake cable
⑤ Rear brake hose
⑥ Rectifier/regulator
⑦ CDI unit
⑧ CDI unit lead

[A] Pass the wire harness and starter motor lead through the holder.
[B] Fasten the wire harness, starter motor lead and handlebar switch lead with the band.
[C] Route behind the starter motor lead.
[D] The leads should not protrude past the frame.



① Ignition coil
② Headlight lead
③ Neutral indicator light

[A] Align the marking tape on the wire harness with the clamp.
[B] Pass the battery leads through the hole on the rear fender.



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		1 month	3 months	6 months	6 months	1 year
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Spark plug	• Check condition. • Clean or replace if necessary.	○	○	○	○	○
Air filter	• Clean. • Replace if necessary.	Every 20~40 hours (More often in wet or dusty areas.)				
Carburetor*	• Check idle speed/starter operation. • Adjust if necessary.		○	○	○	○
Fuel line*	• Check fuel hose for cracks or damage. • Replace if necessary.			○	○	○
Engine oil	• Replace (Warm engine before draining).	○		○	○	○
Engine oil filter	• Clean. • Replace if necessary.			○	○	○
Engine oil strainer	• Clean.	○		○		○
Drive chain	• Check and adjust slack/alignment/clean/lube.	○	○	○	○	○
Brake*	• Check operation/fluid leakage/See NOTE. • Correct if necessary.	○	○	○	○	○
Clutch*	• Check operation. • Adjust if necessary.	○		○	○	○
Wheels*	• Check balance/damage/runout. • Replace if necessary.	○		○	○	○
Wheel bearings*	• Check bearing assembly for looseness/damage. • Replace if damaged.	○		○	○	○
Steering system*	• Check operation. • Repair if damaged. • Check toe-in. • Adjust if necessary.	○	○	○	○	○
Upper and lower arm pivot and steering shaft*	• Lubricate every 6 months.***			○	○	○
Rear arm pivot*	• Lubricate every 6 months.***			○	○	○
Fittings/Fasteners*	• Check all chassis fittings and fasteners. • Correct if necessary.	○	○	○	○	○
Battery*	• Check specific gravity. • Check breather pipe for proper operation. • Correct if necessary.	○	○	○	○	○

* : It is recommended that these items be serviced by a Yamaha dealer.
***: Lithium soap base grease.

NOTE:

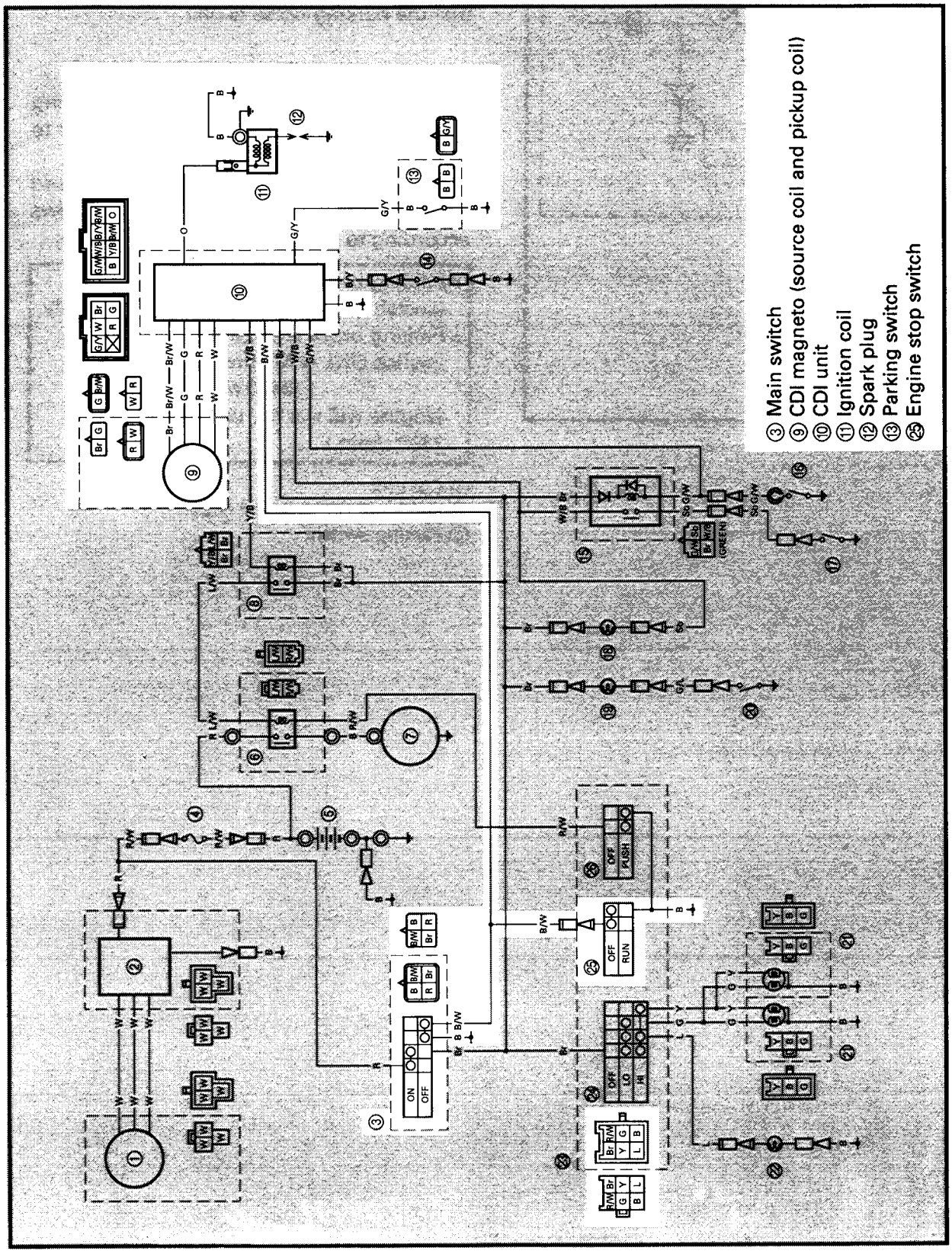
Brake fluid replacement:

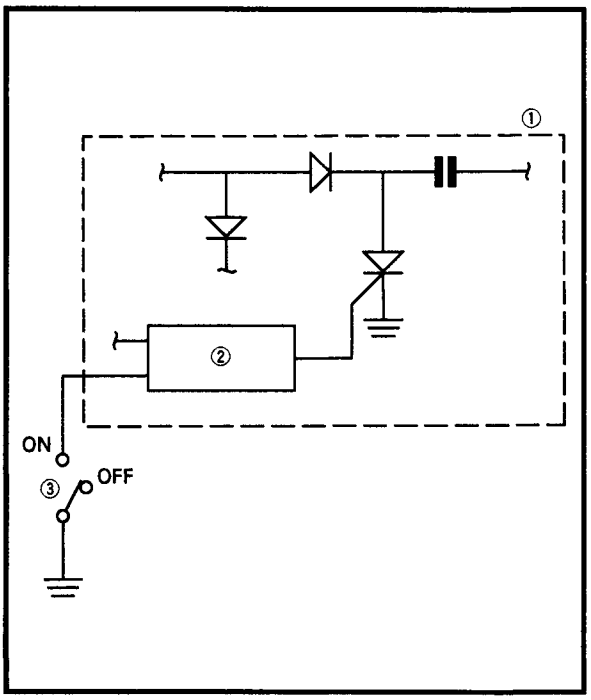
1. When disassembling the master cylinder or caliper cylinder, replace the brake fluid. Normally check the brake fluid level and add fluid as required.
2. On the inner parts of the master cylinder and caliper cylinder, replace the oil seals every two years.
3. Replace the brake hoses every four years, or if cracked or damaged.

ELECTRICAL

IGNITION SYSTEM

CIRCUIT DIAGRAM





ENGINE REVOLUTION LIMITER SYSTEM

When the parking brake is applied, the engine revolution limiter system becomes activated, thereby letting the rider know that the parking brake is on.

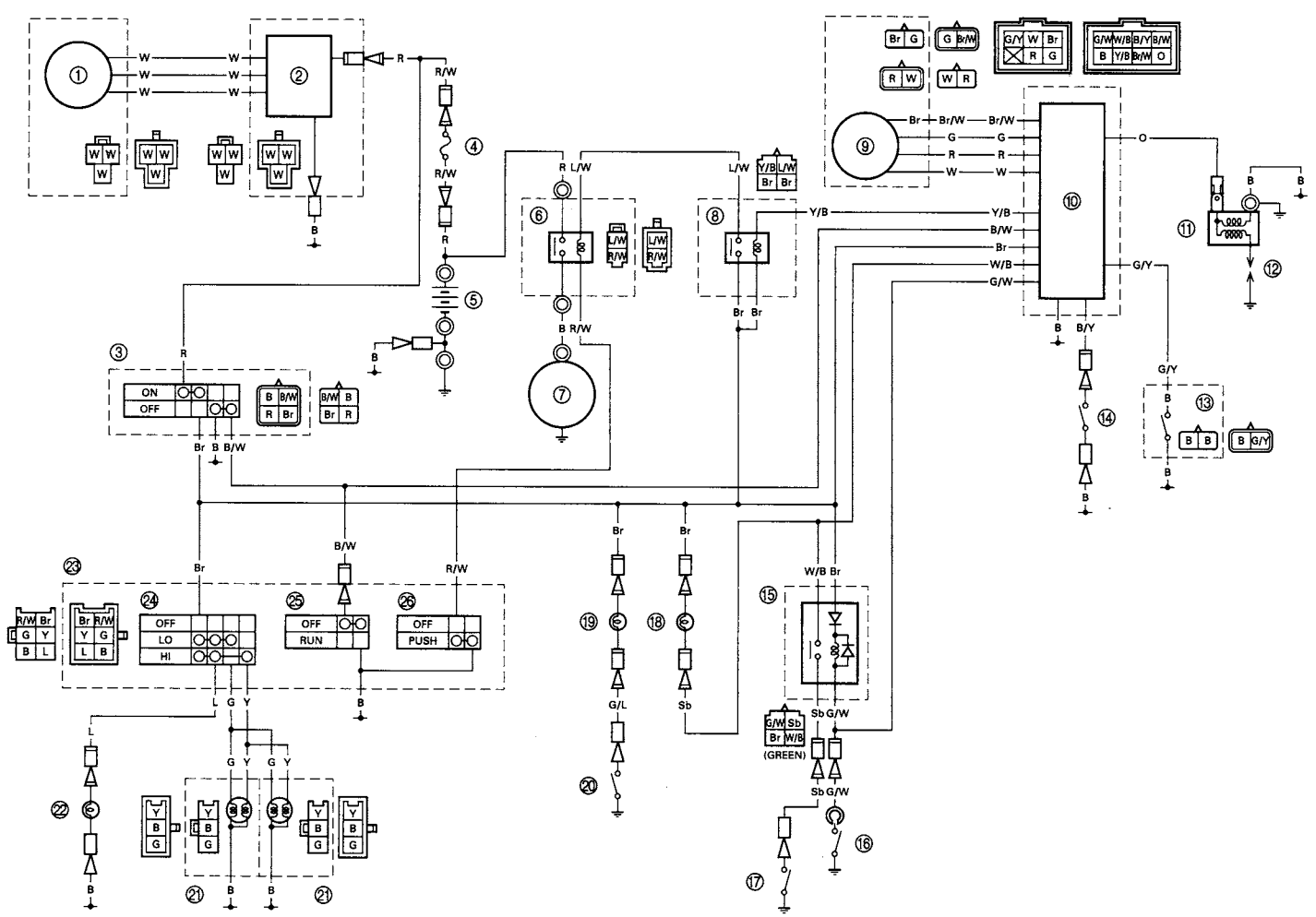
System

A switch is newly provided on the parking brake lever on the left of the handlebar to sense the parking brake condition.
The ignition unit which receives a sensed signal becomes activated as follows according to the parking brake condition.

- Parking brake is released.
  (switch OFF) → Ignition occurs normally.
- Parking brake is applied.
  (switch ON) → Misfire occurs at 2300 r/min.
  (engine will not rev up beyond 2300 r/min.)

① CDI unit
② Ignition timing control circuit
③ Parking switch

YFM350X WIRING DIAGRAM



① CDI magneto (stator coil)
② Rectifier/Regulator
③ Main switch
④ Fuse (main)
⑤ Battery
⑥ Starter relay
⑦ Starter motor
⑧ Starting circuit cut-off relay
⑨ CDI magneto (source coil and pickup coil)
⑩ CDI unit
⑪ Ignition coil
⑫ Spark plug
⑬ Parking switch
⑭ Clutch switch
⑮ Neutral relay
⑯ Lever switch
⑰ Neutral switch
⑱ Neutral indicator light
⑲ Reverse indicator light
⑳ Reverse switch
㉑ Headlight
㉒ Taillight
㉓ Handlebar switch (left)
㉔ Lights switch
㉕ Engine stop switch
㉖ Start switch

COLOR CODE

B..... Black	W..... White	G/Y..... Green/Yellow
Br..... Brown	Y..... Yellow	L/W..... Blue/White
G..... Green	B/W..... Black/White	R/W..... Red/White
L..... Blue	B/Y..... Black/Yellow	W/B..... White/Black
O..... Orange	Br/W..... Brown/White	Y/B..... Yellow/Black
R..... Red	G/L..... Green/Blue	
Sb..... Sky blue	G/W..... Green/White	