

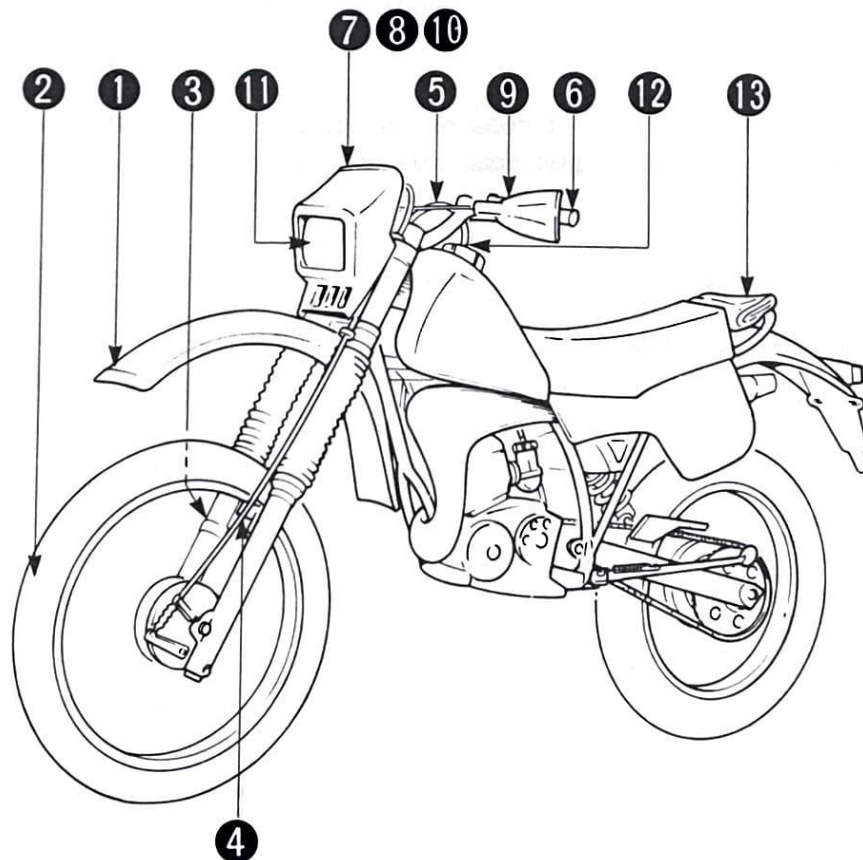


# YAMAHA

[www.legends-yamaha-enduros.com](http://www.legends-yamaha-enduros.com)

# IT490K/IT250K

# SUPPLEMENTARY ASSEMBLY MANUAL



## FOREWORD

This Supplementary assembly manual has been prepared to introduce the setup procedures and predelivery service for the IT490K/IT250K.

For complete information, it is necessary to use the YZ/IT series Basic assembly manual (LIT-11666-03-31) together with this Supplementary assembly manual.

## NOTICE

The service specifications given in this Supplementary assembly manual are based on the model as manufactured. Modifications and significant changes in specifications and/or procedures will be forwarded to Authorized Yamaha Dealers. The procedures below are described in the order that the procedures are carried out correctly and completely. Failure to do so can result in poor performance and possible harm to the machine and/or rider.

### CONCERNING CRATE DAMAGE: \_\_\_\_\_

Follow the instructions in the Dealer warranty handbook, Procedure section.

---

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

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

**CAUTION:** A CAUTION indicates special procedures that must be followed to avoid damage to the machine.

**WARNING:** A WARNING indicates special procedures that must be followed to avoid injury to a machine operator or person inspecting or repairing the machine.

[www.legends-yamaha-enduros.com](http://www.legends-yamaha-enduros.com)

SERVICE DEPT.  
INTERNATIONAL DIVISION  
YAMAHA MOTOR CO., LTD.

**IT490K/IT250K  
SUPPLEMENTARY ASSEMBLY MANUAL  
1982 by Yamaha Motor Corporation, U.S.A.  
1st edition, OCTOBER 1982**

**All rights reserved. Any reprinting or  
unauthorized use without the written permission  
of Yamaha Motor Corporation, U.S.A., is  
expressly prohibited.  
Printed in U.S.A.  
P/N LIT-11666-03-72**

## **GLOSSARY**

**(Symbols most commonly used)**

- C: The "C" marked parts are contained in the small carton box.
- S: The "S" marked parts are contained in the styrofoam tray (Upper or Lower).
- V: The "V" marked parts are contained in the vinyl bag.
- \*: The asterisk (\*) parts are temporarily fitted on the machine.

## SETUP PROCEDURES

**NOTE:** \_\_\_\_\_

Please read the following chapters in the Basic assembly manual before proceeding to the setup.

CHAPTER 1: INTRODUCTION

CHAPTER 2: SETUP AND PREDELIVERY CHECK

CHAPTER 3: TOOLS AND TORQUE SPECIFICATIONS

CHAPTER 4: CRATES

CHAPTER 5: INSTALLATION PROCEDURES

### Parts list

No.	Part name	Q'ty	Locating mark	Remarks
<b>1. Front fender</b> <span style="float: right;"><b>5 F.F-A</b></span>				
1	Front fender	1	S	
2	Hexagon bolt with spring washer	4	V	d = 6 mm (0.24 in), ℓ = 20 mm (0.79 in)
3	Plain washer	4	V	d = 6 mm (0.24 in)
4	Special washer	4	V	d = 6 mm (0.24 in)
<b>2. Front wheel</b> <span style="float: right;"><b>5 F.W-H</b></span>				
1	Front wheel	1	S	
2	Front wheel axle	1	*	d = 15 mm (0.59 in)
3	Speedometer cable housing	1	S	
4	Brake shoe plate assembly	1	S	
5	Plain washer	1	*	d = 15 mm (0.59 in)
6	U nut	1	*	d = 14 mm (0.55 in)
7	Hexagon bolt	1	*	d = 8 mm (0.32 in), ℓ = 30 mm (1.18 in)
8	Spring washer	1	*	d = 8 mm (0.32 in)
9	Speedometer cable	1	S	
<b>3. Cable holder (Right)</b> <span style="float: right;"><b>5 C.H-B</b></span>				
1	Cable holder	1	C	
2	Panhead screw	1	V	d = 5 mm (0.2 in), ℓ = 18 mm (0.71 in)
3	Plain washer	1	V	d = 5 mm (0.2 in)
4	Hexagon nut	1	V	d = 5 mm (0.2 in)

### Parts list

No.	Part name	Q'ty	Locating mark	Remarks
<b>4. Cable holder (Left)</b> <span style="float: right;"><b>5 C.H-F</b></span>				
1	Cable holder (Left and right)	2	*	
2	Hexagon socket head bolt	2	*	d = 6 mm (0.24 in), ℓ = 15 mm (0.59 in)
3	Plain washer	2	*	d = 6 mm (0.24 in)
<b>5. Throttle grip</b> <span style="float: right;"><b>5 T.G-B</b></span>				
1	Throttle grip	1	*	
2	Panhead screw	2	*	d = 5 mm (0.2 in), ℓ = 16 mm (0.63 in)
<b>6. Handlebar</b> <span style="float: right;"><b>5 H.B-B</b></span>				
1	Handlebar	1	S	
2	Flange bolt	4	V	d = 8 mm (0.32 in), ℓ = 35 mm (1.38 in)
3	Handlebar upper holder	2	V	
<b>7. Brake and clutch cable</b> <span style="float: right;"><b>5 B.C-A</b></span>				
<b>8. Engine stop switch</b> <span style="float: right;"><b>5 E.S-C</b></span>				
1	Engine stop switch	1	*	
2	Panhead screw	1	V	d = 3 mm (0.12 in)
3	Plain washer	1	V	d = 3 mm (0.12 in)
4	Engine stop switch holder (Upper and Lower)	2	V	
5	Handlebar band	2	C	Plastic
<b>9. Bush guard</b> <span style="float: right;"><b>5 B.G-A</b></span>				
1	Bush guard (Left and Right)	2	C	
2	Panhead screw with plain washer	2	V	d = 6 mm (0.24 in), ℓ = 16 mm (0.63 in)
3	Plain washer	2	V	d = 6 mm (0.24 in)
4	Hexagon nut	2	V	d = 6 mm (0.24 in)
<b>10. Meter assembly</b> <span style="float: right;"><b>5 M.A-A</b></span>				
1	Meter assembly	1	S	
2	Hexagon bolt with spring washer and plain washer	2	V	d = 6 mm (0.24 in), ℓ = 12 mm (0.47 in)
<b>11. Headlight</b> <span style="float: right;"><b>5 H.L-B</b></span>				
1	Headlight assembly	1	S	

## Parts list

No.	Part name	Q'ty	Locating mark	Remarks
<b>12. Fuel tank breather pipe</b> <span style="border: 1px solid black; padding: 2px;">5</span> <b>F.B-F</b>				
1	Fuel tank breather pipe	1	C	Rubber
<b>13. Took kit</b> <span style="border: 1px solid black; padding: 2px;">5</span> <b>T.K-D</b>				
1	Carrier box	1	S	
2	Panhead screw	4	V	d = 6 mm (0.24 in), ℓ = 20 mm (0.79 in)
3	Plain washer	4	V	d = 6 mm (0.24 in)
4	Carrier box bracket	1	S	
5	Plain washer	4	V	d = 6 mm (0.24 in)
6	Hexagon nut	4	V	d = 6 mm (0.24 in)
7	Tool kit	1	C	

[www.legends-yamaha-enduros.com](http://www.legends-yamaha-enduros.com)

## OFF-ROAD RIDING KIT

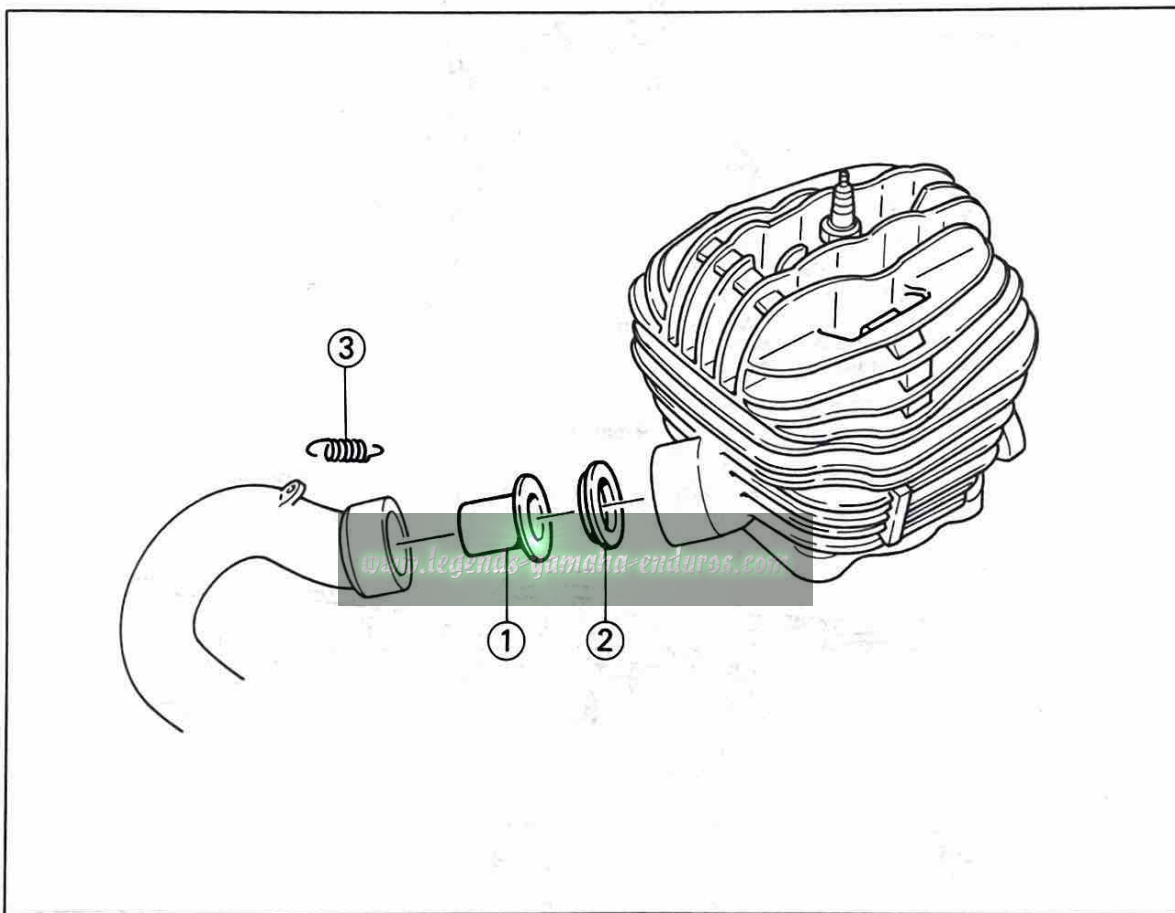
An off-road riding kit is provided with each vehicle to comply with noise level and spark arrester laws and regulations.

### IMPORTANT NOTICE: \_\_\_\_\_

Always check the local regulations governing the areas where you will ride. An 86 dB(A) silencer spark arrester kit is provided with this vehicle for use where required. Installation of kit will reduce performance substantially. This vehicle may not be legally operated public streets, roads or high-ways. Such use is prohibited by law.

---

### OFF-road riding kit



### Parts list

No.	Part name	Q'ty	Locating mark	Remarks
1	Choke pipe	1	C	
2	Exhaust pipe gasket	1	*	
3	Coil spring	3	*	

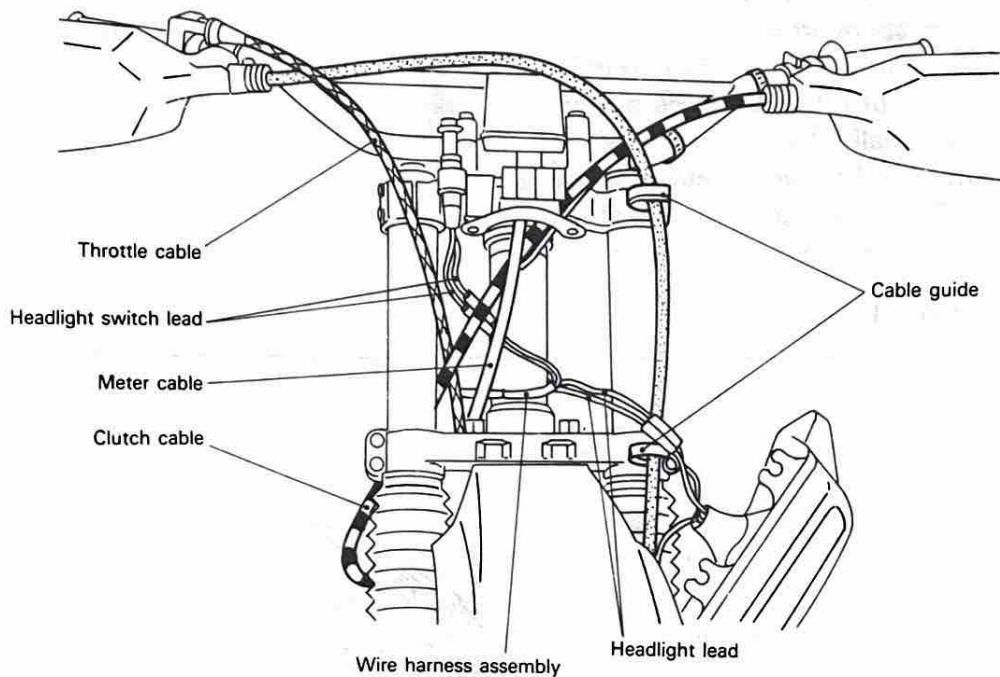
## CABLE ROUTING

### WARNING:

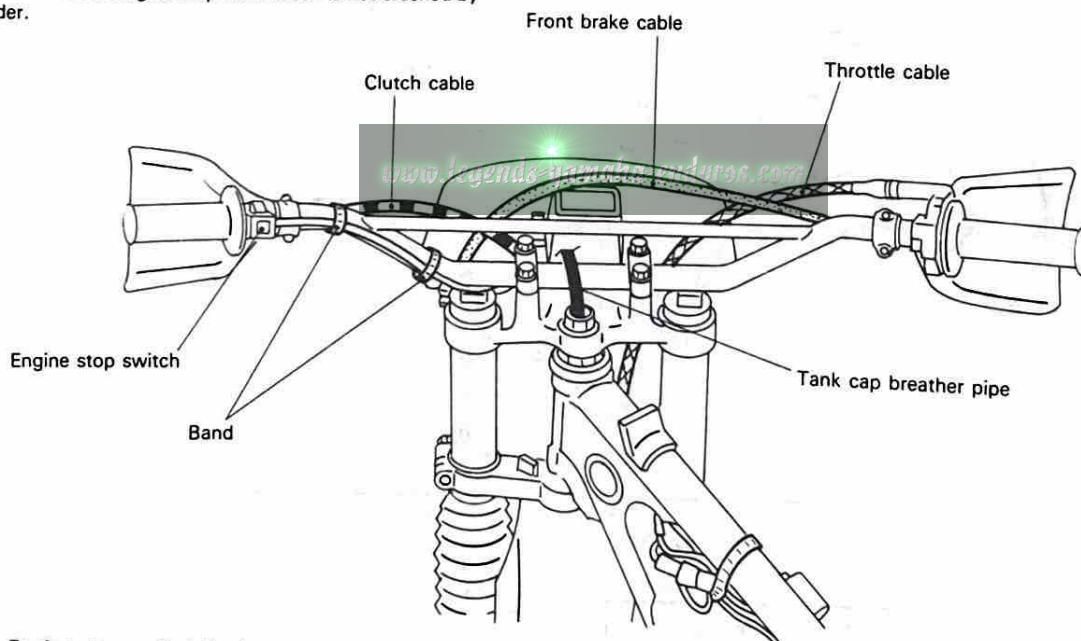
Proper cable and lead routing is essential to insure safe vehicle operation.

#### Front brake wire

Right lever → Behind the throttle wire → Wire guides (on the left side of handle crown → on the left side of under-bracket) → Through the hose clamp and tighten the clamp screw (on the left side of front fork boss) → cam shaft lever.

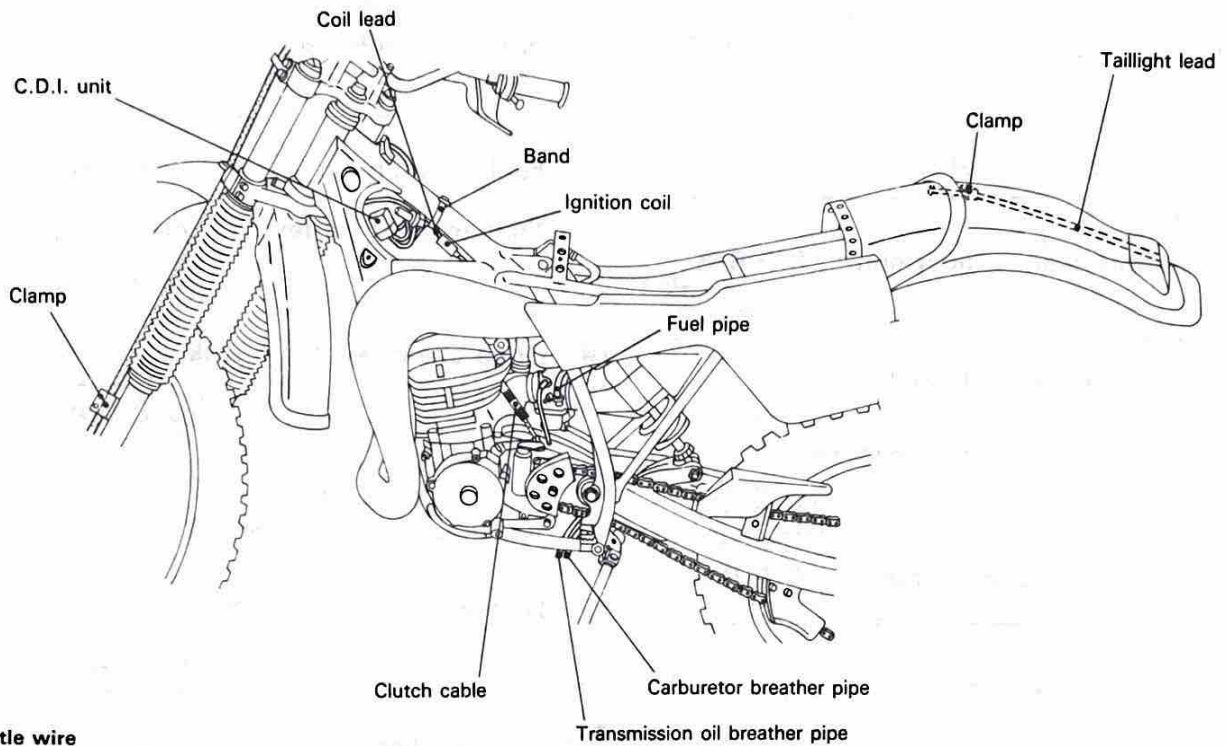


Use care so that the engine stop switch lead is not crushed by the holder.



#### Engine stop switch lead

Secure to the handlebar with bands (at two places) → Route over the handle crown → Through the meter bracket → On the right side of head pipe (behind the clutch wire and meter cables) → Connect to the lead (coming from the CDI unit) on the right side of main pipe and secure to the main pipe with the band.

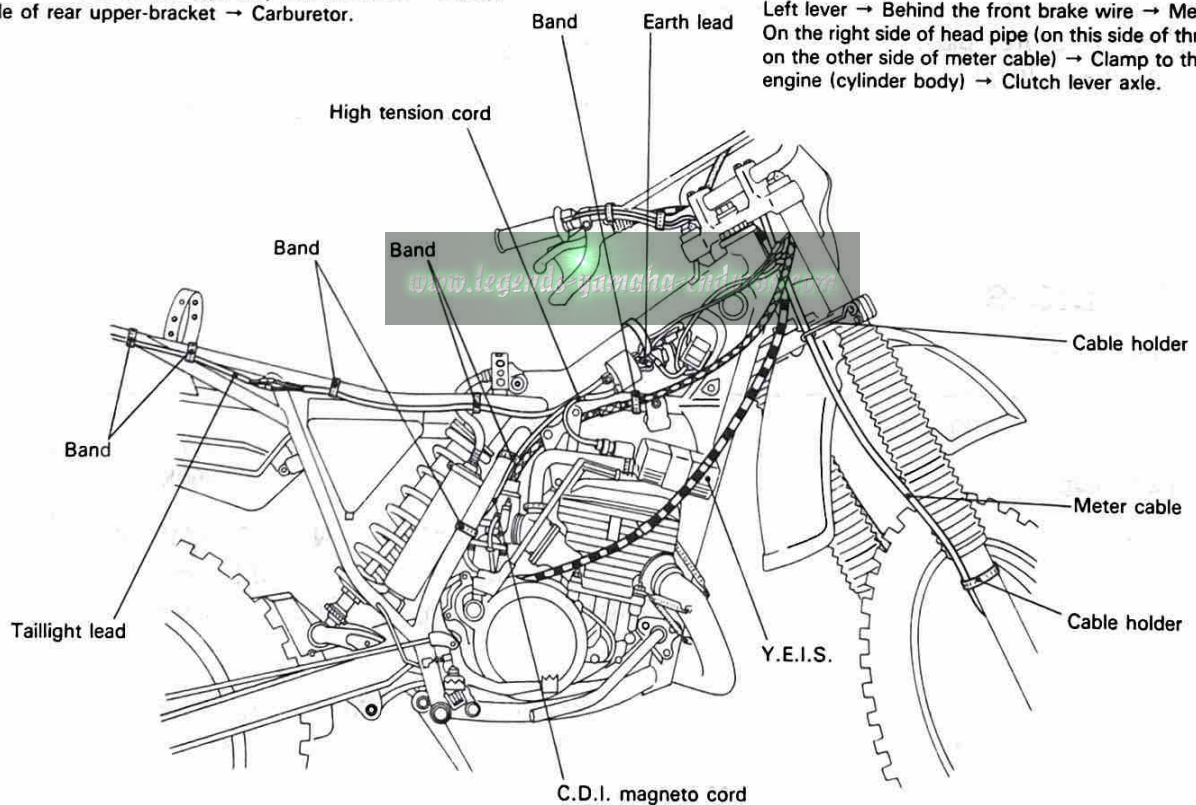


**Throttle wire**

Grip cap → In front of the front brake wire → On the right side of head pipe → Behind the clutch wire → Secure to the right rear part of muffler tension pipe stay with the band → On the left side of rear upper-bracket → Carburetor.

**Clutch wire**

Left lever → Behind the front brake wire → Meter bracket → On the right side of head pipe (on this side of throttle wire and on the other side of meter cable) → Clamp to the right side of engine (cylinder body) → Clutch lever axle.





## ADJUSTMENTS AND PREDELIVERY SERVICE

**NOTE:** \_\_\_\_\_

Please read the following chapter in the Basic assembly manual before proceeding to the adjustments and predelivery service.

CHAPTER 6: APPENDICES

**1. Front brake adjustment** 6 F.B-A

Front brake lever free play:  
5 ~ 8 mm (0.2 ~ 0.3 in)

**2. Rear brake pedal position adjustment** 6 R.P-A

**3. Rear brake adjustment** 6 R.B-A

Rear brake pedal free play:  
20 ~ 30 mm (0.8 ~ 1.2 in)

**4. Clutch adjustment** 6 C.A-B

Clutch lever free play:  
2 ~ 3 mm (0.08 ~ 0.12 in)

**5. Throttle cable adjustment** 6 T.C-B

Throttle cable free play:  
3 ~ 5 mm (0.12 ~ 0.21 in)

**6. Fuel draining** 6 F.D-A

**7. Transmission oil level check** 6 T.L-A

**8. Drive chain tension check** 6 D.C-A

Drive chain deflection:  
10 ~ 15 mm (0.4 ~ 0.6 in)

**9. Transmission oil replacement** 6 T.R-A

Periodic oil change:  
0.75 L (0.66 Imp qt, 0.80 US qt)

**10. Troubleshooting** 6 T.S-A

**11. Headlight beam adjustment** 6 H.L-A

## APPENDICES

### SERVICE DATA

[www.legends-yamaha-enduros.com](http://www.legends-yamaha-enduros.com)

Idling engine speed:	As desired	
Spark plug:	IT490K	IT250K
Type	N-3C (CHAMPION)	N-86 (CHAMPION)
Gap	0.7 ~ 0.8 mm (0.028 ~ 0.031 in)	0.5 ~ 0.6 mm (0.02 ~ 0.024 in)
Fuel:	Premium gasoline (Mixed gas 24 : 1)	
Recommended fuel	13.5 L (3.6 US gal, 3.0 Imp gal)	
Fuel tank capacity		
Engine oil:	Yamalube Racing 2-cycle oil	
Recommended oil	(See Owner's manual)	

Transmission oil: Recommended oil	Yamalube 4-cycle oil or SAE 10W30 type SE motor oil
Oil quantity (Total)	0.80 L (0.85 US qt, 0.70 Imp qt)
Tire pressure (Cold tire pressure): Front	98 kPa (1.0 kg/cm <sup>2</sup> , 14 psi)
Rear	98 kPa (1.0 kg/cm <sup>2</sup> , 14 psi)

## TORQUE SPECIFICATION CHART

Parts to be tightened	Bolt/Nut size	Tightening torque		
		Nm	m · kg	ft · lb
Engine:				
Spark plug	M14 × 1.25	25	2.5	18
Drain plug	M12 × 1.5	20	2.0	14
Chassis:				
Front fender (F. F-A #1)				
Front wheel axle and nut (F.W-H #1)	M14 × 1.5	60	6.0	43
Handle crown and inner tube	M 8 × 1.25	23	2.3	17
Handle crown and steering shaft	M22 × 1.0	130	13.0	94
Handle crown and upper handlebar holder (H.B-A #1)	M 8 × 1.25	23	2.3	17
Front wheel axle pinch bolt (F.W-H #2)	M 8 × 1.25	15	1.5	11
Meter assembly (M.A-A #1)	M 6 × 1.0	5	0.5	3.6
Carrier box (T.K-D #1)	M 6 × 1.0	5	0.5	3.6
Steering shaft and ring nut	M25 × 1.0	10	1.0	7.2
Engine mount and frame	M 8 × 1.25	30	3.0	22
Engine mount and engine:				
Front	M 8 × 1.25	30	3.0	22
Rear	M10 × 1.25	65	6.5	47
Rear wheel axle and nut	M18 × 1.5	100	10.0	72
Sprocket wheel and clutch hub	M 8 × 1.25	30	3.0	22
Rear shock absorber and frame	M10 × 1.25	60	6.0	43
Pivot shaft and nut	M16 × 1.5	85	8.5	61
Camshaft lever and camshaft	M 6 × 1.0	10	1.0	7.2
Relay arm and swingarm	M12 × 1.25	60	6.0	43
Relay arm and rear shock absorber	M10 × 1.25	45	4.5	32
Relay arm and connecting rod	M10 × 1.25	45	4.5	32
Frame and connecting rod	M10 × 1.25	60	6.0	43
Footrest and frame	M12 × 1.25	60	6.0	43
	M10 × 1.25	60	6.0	43

## OWNER'S TOOL KIT

No.	Part name	Q'ty
1	Owner's tool bag	1
2	Spanner (10 – 12)	1
3	Spanner (14 – 17)	1
4	Spoke nipple wrench	1
5	Screwdriver grip	1
6	Screwdriver cap	1
7	Screwdriver bit (Phillips head)	1

No.	Part name	Q'ty
8	Screwdriver bit (Phillips-head and Slotted-head)	1
9	Pliers	1
10	Hexagon wrench (8)	1
11	Special spanner (22–24)	1
12	Special spanner	1
13	Spark plug wrench	1

[www.legends-yamaha-enduros.com](http://www.legends-yamaha-enduros.com)



**YAMAHA MOTOR CO.,LTD.**

IWATA, JAPAN

PRINTED IN U.S.A.