

# **YAMAHA**

## **MOTORCYCLE**

# **MX SERIES & SC500A**

## **ASSEMBLY MANUAL**



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## NOTICE

This manual has been written by Yamaha Motor Company for use by Authorized Yamaha Dealers and their qualified mechanics. In light of this purpose it has been assumed that certain basic mechanical precepts and procedures inherent to our product are already known and understood by the reader. Without such basic knowledge, incorrect assembly of one of the models listed within these pages could occur. This may render the machine unsafe.

The dealer is further cautioned to review the Service Manual for the machine being assembled in order to acquaint himself with the servicing procedures on the machine after assembly has been completed.

The Research and Service Departments of Yamaha are continually striving to further improve all models manufactured by the company. Modifications are therefore inevitable and changes in specifications or procedures mentioned within this manual will be forwarded to all Authorized Yamaha Dealers and will, where applicable, appear in future editions of this manual.

Should the dealer note a difference between the information in this manual and the actual model, he is advised to contact the U.S. Distributor, Yamaha International Corporation (CANADA Distributor: Yamaha Motor Canada Limited) per established routine for clarification.

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YAMAHA  
MX SERIES & SC500A  
ASSEMBLY MANUAL  
1st Edition, August 1973  
SERVICE DEPARTMENT  
YAMAHA MOTOR CO., LTD.  
IWATA, JAPAN  
LIT-11664-27-00

## TORQUE SPECIFICATIONS

The following torque specifications must be adhered to on every machine. Tightening torque, on multi-secured components, several studs should be in gradual stages and in a pattern that will avoid warpage to the item being secured.

Torque settings are for dry, clean threads. Torquing should always be done to the nut, never the bolt head.

### Note:

Certain items with other than standard thread pitches may require differing torque. Consult the model Service Manual or distributor if a question arises.

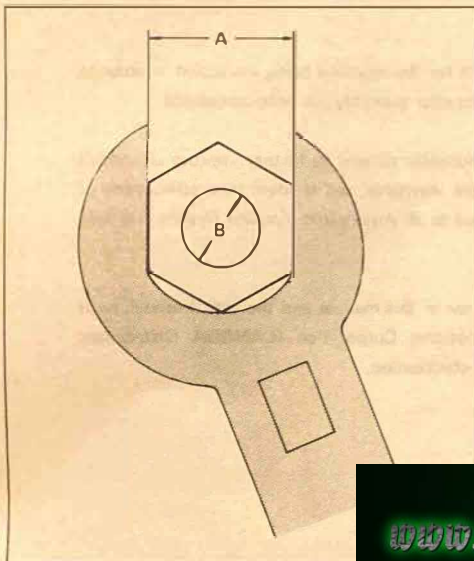


Fig. A

### Torque specifications

A	B	kg-m	lbs-ft	lbs-in
(Nut)	(Bolt)			
10mm	6mm	1.0	7.2	87
10mm	7mm	1.5	10.9	130
13mm 14mm	8mm	2.0	14.5	174
17mm	10mm	3.5 ~ 4.0	25 ~ 29	304 ~ 347
19mm	12mm	4.0 ~ 4.5	29 ~ 33	347 ~ 391
22mm	14mm	4.5 ~ 5.0	33 ~ 36	391 ~ 434
26mm	17mm	5.8 ~ 7.0	42 ~ 51	504 ~ 608
27mm	18mm	5.8 ~ 7.0	42 ~ 51	504 ~ 608
30mm	20mm	7.0 ~ 8.3	51 ~ 60	608 ~ 721
SPARK PLUGS		1.5 ~ 1.9	11 ~ 14	130 ~ 165

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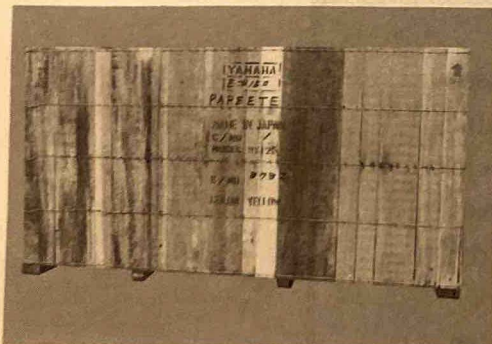


Fig. 1

## UNPACKING

1. The MX100A (MX125A, MX175A) is put in a wooden box crate. To unpack, remove the nails at the upper panel, and remove the upper panel. Then unfasten the wire lock of the side panel as shown in Fig. 2, and then remove the nails at the side panel and remove the side panel.

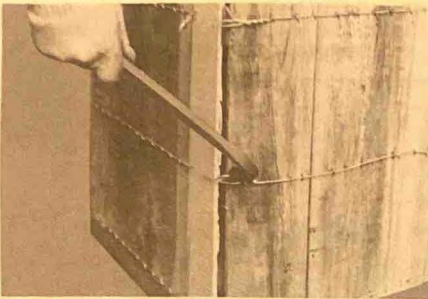


Fig. 2

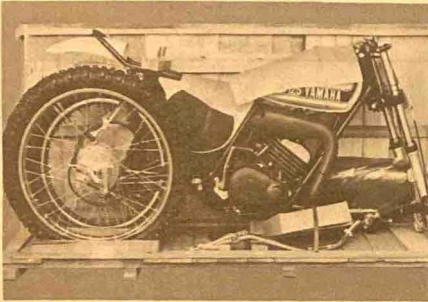


Fig. 3

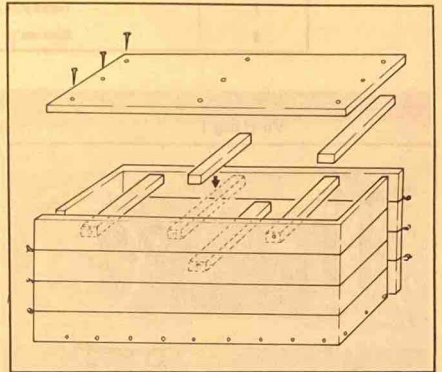


Fig. 4

2. Check the parts for quantity and damage. If any parts are found damaged, replace. (Fig. 5, Fig. 6)

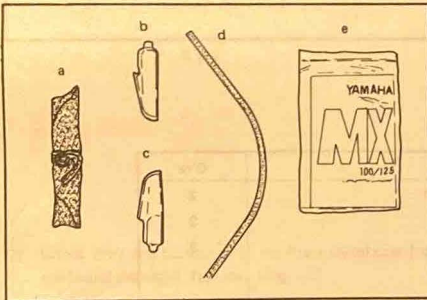


Fig. 5

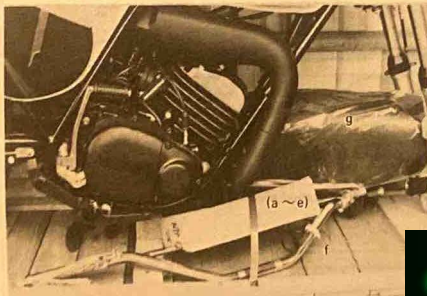


Fig. 6

Check list

(MX100A, MX125A, MX175A)

Set position	Part Name	Q'ty
a	Tool set	1
b	Lever cover (Clutch)	1
c	Lever cover (Brake)	1
d	Fuel tank breather pipe	1
e	Owner's service manual	1
f	Handlebar ass'y	1
g	Seat ass'y	1

The quantity of parts specified above is per machine.

Vinyl bag 1

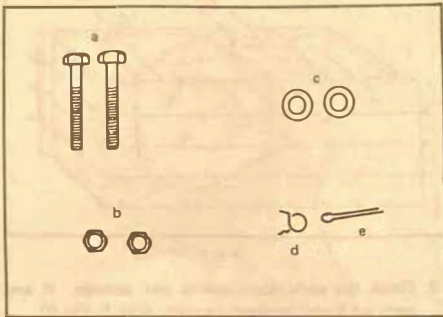


Fig. 7

Vinyl bag 2

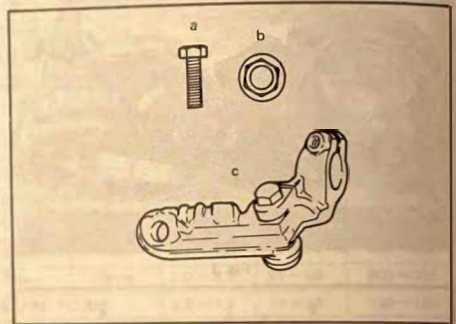


Fig. 8

Vinyl bag 1

	Part Name	Q'ty
a	8 mm x 55 mm bolt	2
b	8 mm special nut	2
c	8 mm plain washer	2
d	Fuel pipe clip	1
e	Cotter pin (Front axle)	1

Vinyl bag 2

	Part Name	Q'ty
a	8 mm x 30 mm bolt	1
b	12 mm special nut	1
c	Foot rest ass'y (left)	1

The quantity of parts specified above is per machine

## UNPACKING

- 1) The SC500A (MX360A, MX250A) is put in a cardboard crate. To unpack, cut plastic bands around the cardboard crate using a cutter, and then take it out. Lift the top off the crate by pulling it straight up with an assistant. (Fig. 9 ~ Fig. 11)

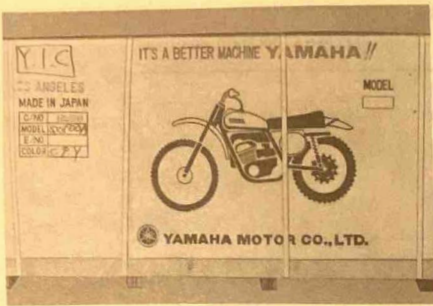


Fig. 9



Fig. 10

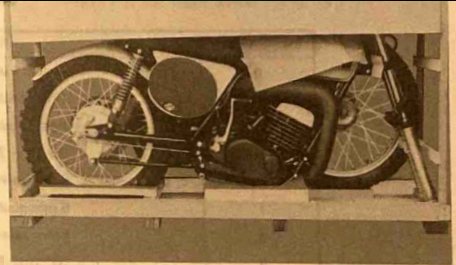


Fig. 11

- 2) Check the parts contained in the foam styrol case for quantity and damage. If any parts are found damaged, replace. (Fig. 12)

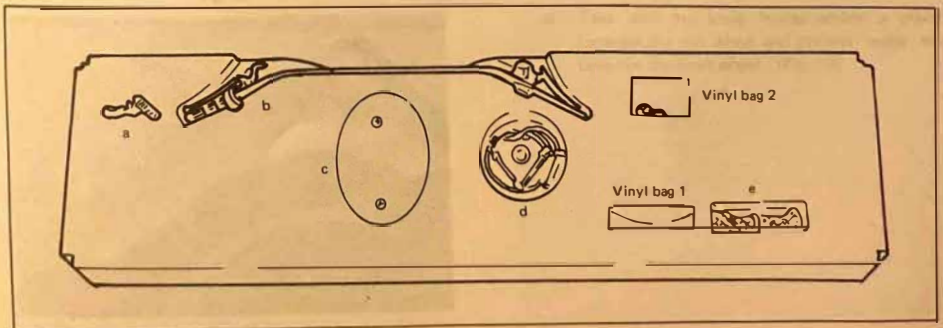


Fig. 12

### Check list

(MX250A, MX360A, SC500A)

Set position	Part Name	Q'ty
a	Foot rest ass'y (right)	1
b	Handlebar ass'y	1
c	Number plate	1
d	Brake shoe plate ass'y	1
e	Tool set	1

The quantity of parts specified above is per machine.

### Vinyl bag 1

	Part Name	Q'ty
a	Owner's service manual	1
b	Front fender damper	8
c	Front fender collar	4
d	6 x 20 ~25 hexagon bolt	4
e	6 mm spring washer	4
f	6 mm plain washer	4
g	Front axle cotter pin	1
h	"O" ring (For number plate)	1

### Vinyl bag 2

	Part Name	Q'ty
a	Muffler stay 1	1
b	Muffler stay 2	1
c	6 mm x 25 mm bolt	1
d	8 mm x 25 mm bolt	1

The quantity of parts specified above is per machine.



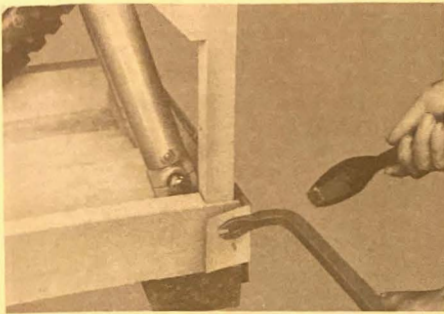


Fig. 13

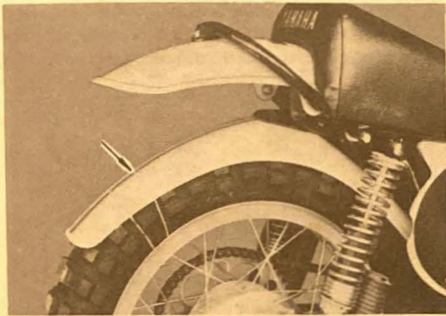


Fig. 14

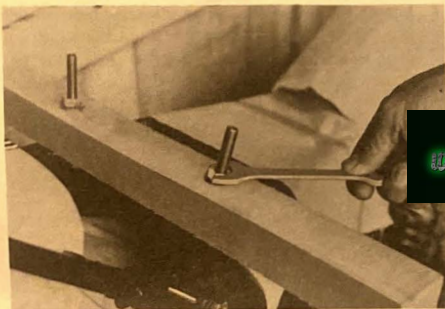


Fig. 15



Fig. 16

## ASSEMBLY INSTRUCTIONS

### 1. (SC500A, MX360A, MX250A)

- a. Remove the nail at each corner of the crate, and remove the struts. (Fig. 13)

- b. Take out the front fender which is placed between the rear wheel and the rear fender, and take out the front wheel. (Fig. 14.)

### (MX175A, MX125A, MX100A)

- c. Loosen the two bolts, and remove the struts. (Fig. 15)

- d. Take out the front fender which is placed between the rear wheel and the rear fender, and take out the front wheel. (Fig. 16)

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Fig. 17

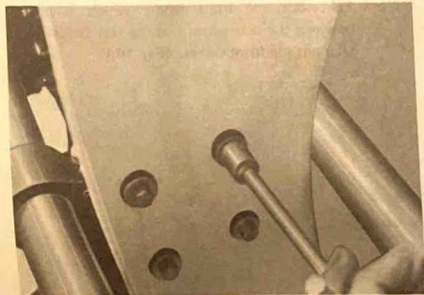


Fig. 18

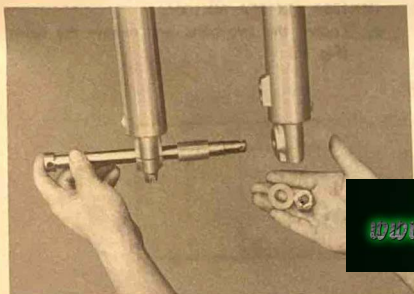


Fig. 19

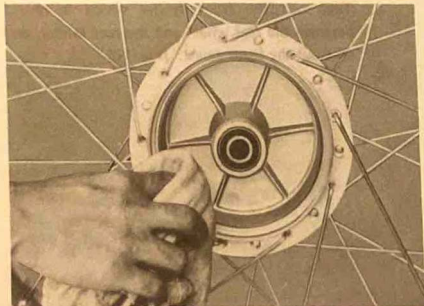


Fig. 20

2. a. Lift up the motorcycle. Then take out the rear wheel from the lower foam styrol case.

b. Place a suitable support under the engine. This will keep the front of the machine elevated while the front fender and front wheel are installed. (Fig. 17)

3. Insert the front fender between the front forks, and secure the front fender using 0.24 in. (6 mm) hex head bolts, spring washers, dampers and plain washers, for each. (Fig. 18)

4. Loosen the two nuts securing the axle holder (R-side front fork). Next, remove the wheel shaft nut and plain washer, and pull out the wheel shaft. (Fig. 19)

5. Wipe off any dust on the brake shoe linings and drum with a clean cloth. (Fig. 20)  
Then fit the brake shoe plate assembly to the drum.

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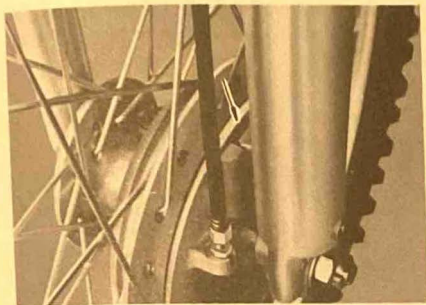


Fig. 21

6. a. Align the stopper (located in the bottom part of the front fork) with the shoe plate groove, and place the front wheel between the front forks. (Fig. 21)
- b. Insert the wheel shaft.

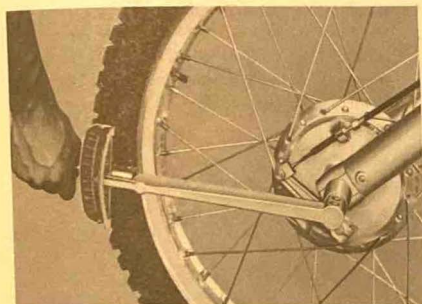


Fig. 22

7. Install the plain washer and wheel shaft nut on the wheel shaft, and tighten the nut with specified torque. (Fig. 22)

Tightening torque: 36.2 ~ 50.7 ft-lbs (5.0 ~ 7.0 kg-m)

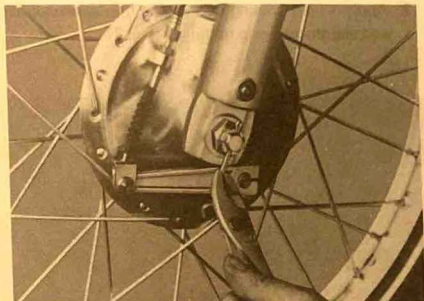


Fig. 23

8. Lock the wheel shaft nut with the cotter pin. (Fig. 23)

**Note:**

The cotter pin should be installed with the open ends pointing down, prior to bending the ends apart.

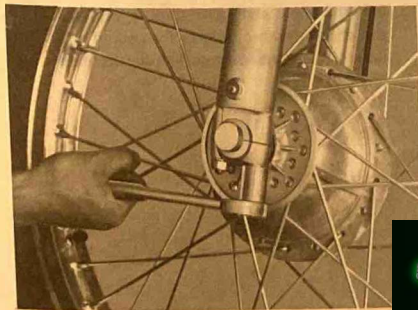


Fig. 24

9. Tighten the two axle holder nuts with specified torque. (Fig. 24)

Tightening torque: 14.5 ~ 18.0 ft-lbs (2.0 ~ 2.5 kg-m)

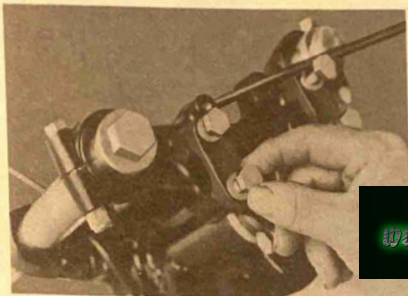


Fig. 25

10. Remove the handlebar holder hex head securing bolts and lock washers, then remove the holders. (Fig. 25)

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Fig. 26

11. Install the handlebar assembly.

Make sure the lock washers on the securing bolts are in place and that the bolts are evenly torqued in gradual stages and in a cross-pattern. (Fig. 26)

Tightening torque: 13.0 ~ 18.1 ft-lbs (1.8 ~ 2.5 kg-m)

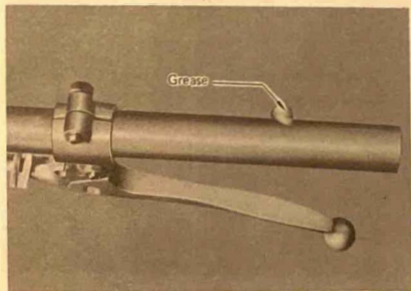


Fig. 27

12. Apply a light coating of grease to the right handlebar end and throttle grip housing. (Fig. 27)

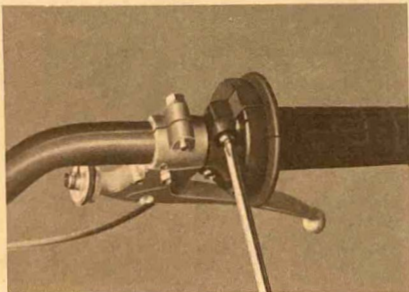


Fig. 28

13. Bolt the upper and lower throttle housing together, and check the throttle grip for smooth action, then fully tighten the throttle housing securing screws. (Fig. 28)

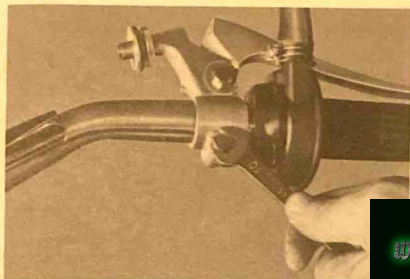


Fig. 29

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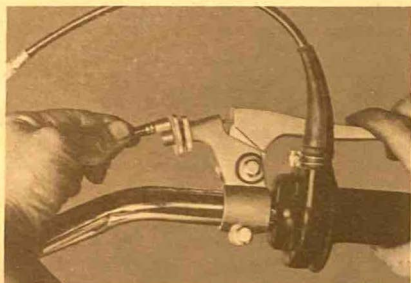


Fig. 30

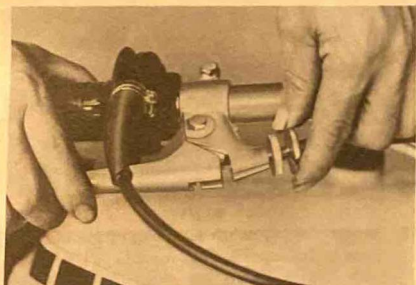


Fig. 31

14. Tighten the brake and clutch lever holder 0.24 in. (6 mm) hex head bolts. (Fig. 29)

15. Connect the brake and clutch cable to the each levers.

**Note:**

As for MX100A, MX125A and MX175A, be sure to pass clutch lever and brake lever through the lever holder covers before connecting the cables to the levers.

- a. Fully loosen the lever lock nut, and screw in the adjusting bolt until it becomes tight so that the lever lock nut slot is aligned with the adjusting bolt slot. Next, connect the cable end to the lever, and hook up the outer cable to the lock nut. Then, fully pull in the lever, and release it abruptly. At the same time, pull the outer cable quickly. This makes easy the connection of the outer cable to the adjusting bolt. (Fig. 30) For detailed cable routing, refer to "CABLE ROUTING DIAGRAMS".
- b. Adjust cable length according to the specification in the model Service Manual. (Fig. 31)

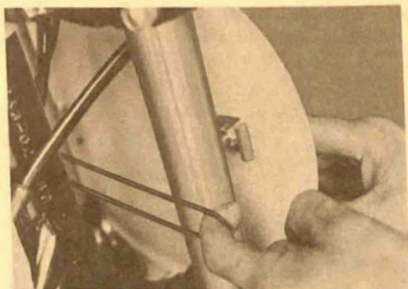


Fig. 32

16. Install the front number plate on the front forks. (Fig. 32) (MX250A, MX360A, SC500A)

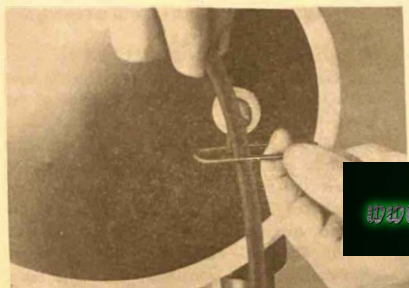


Fig. 33

17. Thread the front brake wire through the wire holder attached to the number plate. (Fig. 33)

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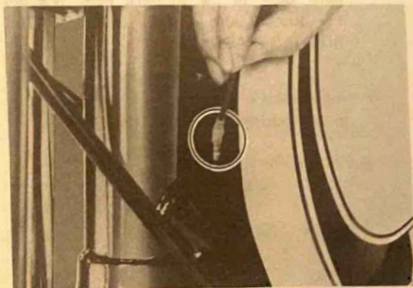


Fig. 34

18. Pass the lead wire (coming from the kill switch) through the hole located at the left side behind of the steering head, as shown in Fig. 34. For detailed cable routing, refer to "CABLE ROUTING DIAGRAMS".

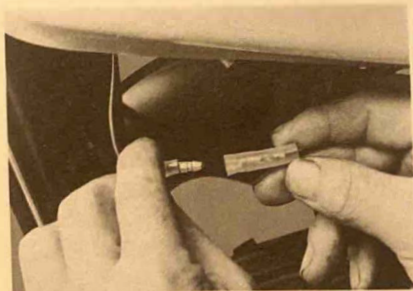


Fig. 35

19. Connect the kill switch lead wire to the lead wire (Black/White) coming from the C.D.I. Unit Ass'y under the fuel tank, as shown in Fig. 35. If necessary, remove the fuel tank.

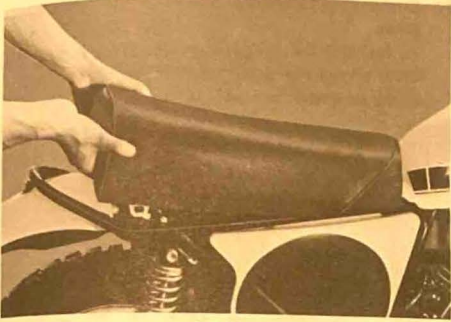


Fig. 36



Fig. 37

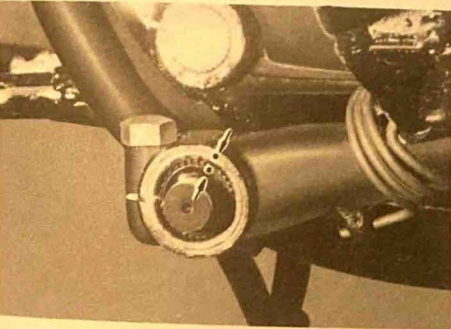


Fig. 38

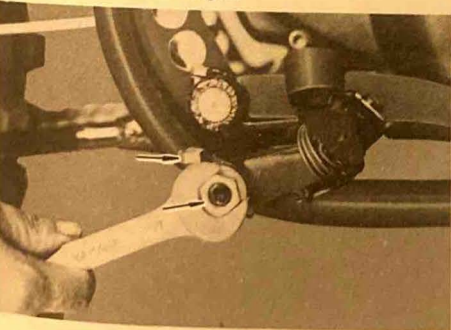


Fig. 39

20. Install the seat ass'y. (Fig. 36) (MX100A, MX125A, MX175A).

21. Install the bolts on the two locations - right and left - of the rear part of the seat, and tighten the bolts with washers and nuts. (Fig. 37) (MX100A, MX125A, MX175A).

22. Install the foot rest assembly.

**Note:**

Match the punch mark of the foot rest assembly to that of the shaft as shown in Fig. 38.

23. Install the foot rest.

To install, secure them with special nuts, and then tighten the lock bolts. (Fig. 39)

Tightening torque: 36.2 ~ 50.7 ft-lbs (5.0 ~ 7.0 kg-m)

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Fig. 40

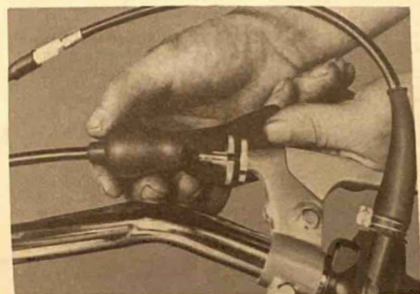


Fig. 41

24. Connect the air breather pipe to the fuel tank cap.

**Note:**

As for MX100A, MX125A and MX175A, connect the other end of the air breather pipe to the tension pipe of the handlebar and then tape them.

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25. Install the holder covers on the brake and clutch lever holders.

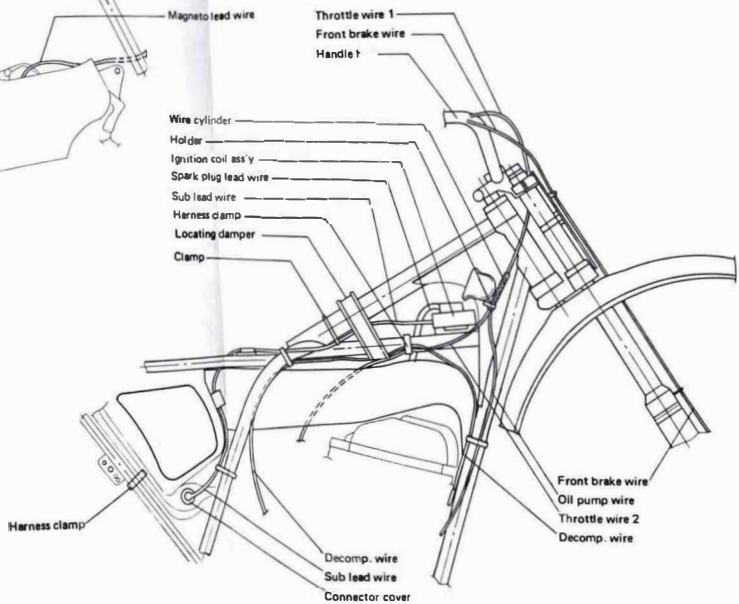
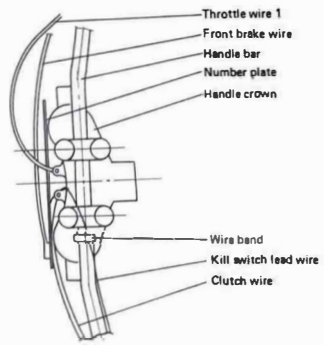
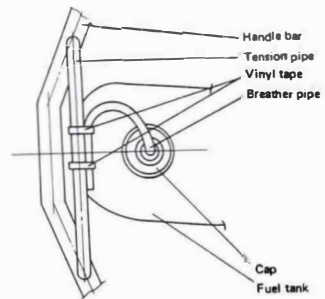
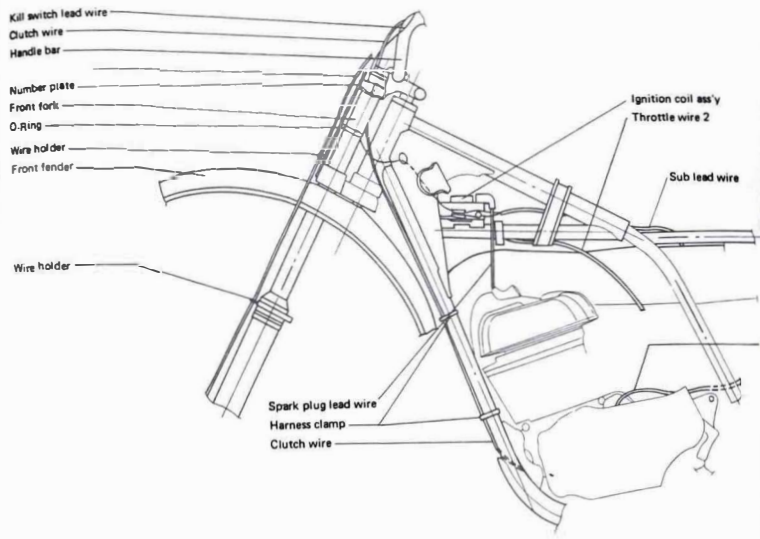
Starting at the front of the unit, inspect the following fittings, mounts, and fasteners for correct installation and fastener torque:

1. Front wheel spoke tightness.
2. Front wheel rim deflection and runout.
3. Front wheel tire pressure.
4. Front wheel axle nut, cotter pin.
5. Front wheel axle holder securing nuts.
6. Front fork securing bolts.
7. Steering head lock nuts.
8. Handlebar holder securing bolts.
9. Handle lever, and throttle ass'y mounts.
10. Engine mounting bolts.
11. Cylinder head securing nuts.
12. Carburetor mounting flange screws.
13. Foot rest mounts.
14. Change pedal securing bolt.
15. Brake pedal mount and actuating mechanism.
16. Rear fender mount.
17. Rear shock (cushion ) mounting nuts.
18. Rear swing arm pivot securing nuts.
19. Rear axle lock nut and cotter pin.
20. Chain adjust bolts and lock nuts.
21. Rear wheel spoke tightness.
22. Rear wheel rim deflection and runout.
23. Rear wheel tire pressure.

THIS CONCLUDES THE ASSEMBLY PORTION. HOWEVER, THE UNIT MUST STILL BE "SET-UP" FOR DELIVERY TO THE CUSTOMER.

For specifications regarding ignition timing, carburetor adjustment, tire pressures, engine oil type and quantity, etc., refer to appropriate sections of MX series & SC 500A service manual.





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