S U P P L E M E N T

XS750 – 2D

Note: This section only covers those points which are different from the XS 750 D.
If the subject does not appear in this section, please refer to the Contents page.

SPECIFICATIONS (XS750-2D Only)

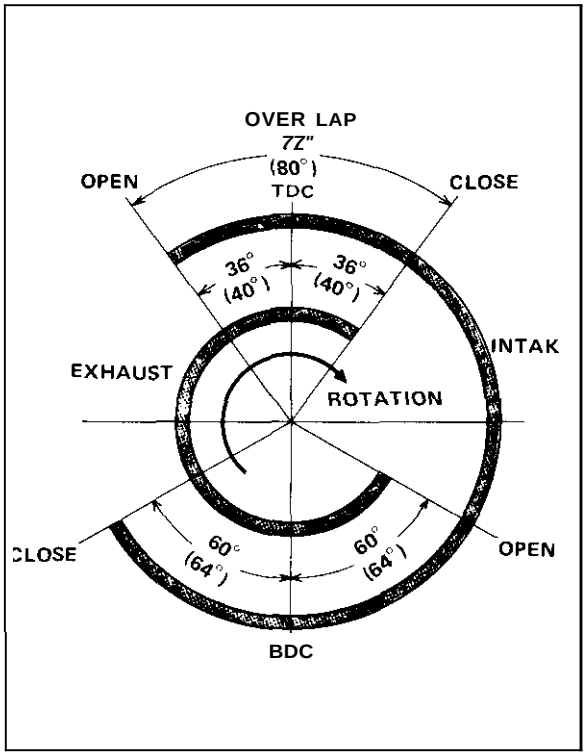
A. GENERAL SPECIFICATIONS	
Dimensions:	
Overall length	2,160 mm (85.0 in)
Overall width	895 mm (35.2 in)
Overall height	1,150 mm (45.3 in)
Seat height	820 mm (32.3 in)
Wheelbase	1,470 mm (57.9 in)
Minimum ground clearance	140 mm (5.5 in)
Caster (steering head angle)	27°
Trail	110 mm (4.3 in)
Weight:	
Net	232 kg (512 lb)
Engine:	
Type	D.O.H.C., air-cooled, triple
Bore x stroke x cylinders	68 mm x 68.6 mm x 3
Displacement	747 cc
Compression ratio	8.5 : 1
Lubrication:	
Lubrication system	Pressure lubricated, wet sump
Delivery pump type	Trocoid pump
Carburetion:	
Manufacture	Mikuni
Type, I.D. No., Quantity	BS34, Constant velocity, 1J701,3pcs
Rated venturi size	34 mm

Air filter:	
Type	Dry foam rubber
Ignition:	
Type	Battery/coil
Spark plug	NGK BP-7ES or CHAMPION N-7Y
Charging:	
Type	Three-phase, regulated alternator
Manufacture, I.D. No.	Hitachi LD120-02
Maximum output	14.5 V/18A
Battery type	12V 14A-Hr.
Battery dimensions	134 x 166 x 89 mm
Regulator	National RD1143. IC Regulator
Rectifier	National RD1143, Silicon, full wave
Starting	Transmission Coupled kick Mitsuba Electric SM-224C
Primary deive	
Type	Hy-Vo silent chain
Teeth, ratio	45/27 (1.666)
Clutch	Wet, multiple disc
Transmission:	
Type	Constant mesh, 5-peed, drum shifter
Teeth. ratio, overall 1st	32/13 (2.461) 13.285
2nd	27/17 (1.588) 8.636
3rd	26/20 (1.300) 7.069
4th	23/21 (1.095) 5.955
5th	22/23 (0.956) 5.201
Secondary Drive:	
Type	Shaft drive
Transmission Output:	
Type. teeth, ratio	Spur gear, 34/32, 1.063
Middle gear case	
Type. teeth, ratio	Bevel gear, 19/18, 1.056
Final gear case	
Type, teeth, ratio	Bevel gear. 32/11,2.909
Chassis:	
Frame	Tubular steel double cradle
Suspension:	
Front (type, travel)	Telescopicfork, 175 mm (6.9 in)
Rear (type, travel)	Swing arm,80 mm (3.2 in)
Tires:	
Front	3.25 H 19-4PR Bridgestone
Rear	4.00 H 18-4PR Bridgestone
Brakes:	
Front	Dual hydraulic disc
Rear	Single hydraulicdisc
Fuel tank	17.0 lit (4.5 USgal) leaded or unleaded
Wheels:	
Front	1.85 x 19 Cast Aluminum
Rear	2.15 x 18 Cast Aluminum

B. MAINTENANCE SPECIFICATIONS

1. Engine			
Engine/Transmission oil capacity			
Total amount		3,800 cc (4.0 **US** qt)	
Oil and filter change		3,500 cc (3.7 US qt)	
Oil change		3,000 cc (3.2 US qt)	
2. Carburetion			
Manufacturer	Mikuni	Float level	26.5 ± 2.5mm (from gasket surface)
Model, I.D.No.	BS34.1J701	Pilot screw	2-1/4 turns
Main jet	No. 145	Air jet, Main	1.0 mm
Needle jet	Y-2	Air jet, Pilot	1.6 mm
Pilot jet	No. 17.5	Throttle valve,	No. 140
Starter jet	No. 25	Inlet valve size	2.0 mm
Jet needlelclip position	4H	Engine idle speed	1,050 - 1,150 rpm
Brakes			
Recommended fluid		DOT No.3	
Minimum boiling point		240°C	(464°F)
Pad thickness wear limit		6.0 mm	(0.24 in)
Brake disc maximum deflection		0.15 mm	(0.006 in)
Brake disc minimum thickness		6.5 mm	(0.26 in)
Front brake freeplay (end of lever)		5 — 8mm	(0.2— 0.3 in)
Rear brake freeplay (end of pedal)		10 mm	(0.40 in)
Front forks			
Spring **free** length		503.2 mm	(19.81 in)
Spring preload length		473.2 mm	(18.63 in)
Spring rate (0~100 mm travel)		*0.5* kg/mm	(28 lb/in)
(100~175 mm travel)		0.648 kg/mm	(36.3 lb/in)
Fork oil capacity (each side)		200 cc (6.76 US fl.oz.)	
Rear shock absorbers			
Spring free length		256 mm (10.08 in)	
Spring preload length		228 mm (9.0 in)	
Spring rate (0~45 mm travel)		1.9 kg/mm (106 lb/in)	
(45~80 mm travel)		2.52 kg/mm 1141.1 lb/in)	
4. Electrical			
Ignition timing retarded		10°@1.100 rpm	
advanced		28.5°±1.5°@3.050±150rpm	
advance starts		1,800±100 rpm	
Spark plug cap resistance		4.25~6.0 K ohms	
Regulator type		National RD1143	
Regulated voltage		14.5±0.3V	
Lighting			
Headlight		Sealed beam 12V, 50/40W	
Taillight/stoplight		12V. 8/27W	(two bulbs)
Flasher light		12V. 27W	(four bulbs)
Flasher pilot light		12V. 3.4W	(two bulbs)
Meter lights		12V. 3.4W	(two bulbs)
High beam indicator light		12v. 3.4W	
Oil pressure warning light		12v. 3.4w	
Neutral light		12v. 3.4w	

Valve Timing (XS750D, XS750-2D)



Specifications in parentheses ( ) are for XS 750-2D. Specifications without parentheses are for XS750D.

	Open	Close	Over Lap
Intake	36° (40°) BTDC	60° (64°) ABDC	72° (80°)
Exhaust	60° (64°) BBDC	36° (40°) ATDC	

Page numbers shown in brackets correspond to page numbers of the XS750D Service Manual.

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A. Maintenance Intervals For New Machines (XS750D, XS750-2D)

Initial 400Km (250miles):
- Cam chain adjustment
- Spark plug inspection
- Wheel, tire inspection
- **Fuel** petcock cleaning
- Battery maintenance
- Lights, signals check
- Fittings, fasteners tightening
- Brake system inspection

Initial 800km (500miles):
- Carburetor adjustment
- Brake system inspection
- Wheel, tire inspection
- Battery maintenance
- Ignition timing check
- Lights, signals check
- Fittings, fasteners tightening
- Clutch adjustment
- Steering head adjustment

Initial 1,600km (1,000miles):
- Air filter cleaning
- Brake system inspection
- Wheel, tire inspection
- Fuel petcock cleaning
- Battery maintenance
- Lights. signals check
- Fittings, fasteners tightening

Initial 3.200km(2,000miles):
- Clutch adjustment
- Cylinder cornpression check
- Valve clearance check
- Cylinder head torque check
- Cam chain adjustment (4,800km or 3,000miles)
- Spark plugs inspection and cleaning
- Carburetor adjustment
- Brake system inspection
- Wheel, tire inspection
- Battery maintenance
- Ignition timing adjustment
- Lights, signals check
- Fittings, fasteners tightening

B. Routine Maintenance intervals (XS750D, XS750-2D)

Every 1,600km (1,000miles):
- Air filter cleaning
- Brake system inspection
- Wheel, tire inspection
- Battery maintenance
- Lights, signals check
- Fittings, fasteners tightening

Every 3,200km (2,000miles):
- Spark plug inspection
- Carburetor adjustment
- Fuel petcock cleaning
- Ignition timing check and adjustment
- Clutch adjustment

Every 6,400km (4,000miles):
- Cylinder compression check
- Valve clearance check and adjustment (9,600km or 6,000miles)
- Cylinder head torque check
- Cam chain adjustment (4,800km or 3,000miles)
- Steering head adjustment
- Swing arm bearing adjustment

C. Lubrication Intervals For New Machines (XS750D, XS750-2D)

Initial 400km (250miles): Replace engine/transmission oil Replace oil filter Replace middle/final(rear)gear oil Lubricate throttle griplhousing Check brake fluid Initial 800km (500miles): Check brake fluid Initial 1,600km (1,000miles) Check brake fluid	Initial 3,200km (2,000miles): Replace engine/transmission oil (2,400km or 1,500miles) Lubricate control/meter cables Lubricate throttle grip/housing Check brake fluid Replace front fork oil Replace oil filter (4,800km or 3,000miles) Replace steering bearing grease Lubricate speedometer gear housing

D. Routine Lubrication Intervals (XS750D, XS750-2D)

Every 1,600km (1,000miles): Check brake fluid Every 3,200km (2,000miles): Lubricate control/meter cables Lubricate point cam lubrication wicks Every 4,800km (3,000miles): Replace engine/transmission oil Every 6,400km (4,000miles): Lubricate throttle grip/housing Replace front fork oil Lubricate speedometer gear housing	Every 9,600km (6,000miles): Replace oil filter Replace middle/final (rear) gear oil Every 12,800km (8,000miles): Replace steering bearing grease Replace rear arm pivot bearing grease Replace wheel bearing grease

NOTE:

Brake fluid replacement:

1. When disassembling the master cylinder or caliper cylinder, replace and bleed the air from the brake fluid. Normally check the brake fluid level and add the fluid as required.
2. Replace the master cylinder and caliper cylinder internal seals every two years.
3. Replace the brake hoses every four years, or if cracked or damaged.

E. Recommended Lubricants (XS750D, XS750-2D)

Middle/Final (rear) gear	3. SAE 80, API "GL-4"Hypoid gear oil, for use below 15°C (41°F)

Torque Specifications

Engine:		
Spark plug	2.0 m-kg	(14 ft-lb)
Cam cap nut	0.9 m-kg	(7 ft-lb)
Rod cap	3.8 m-kg	(27 ft-lb)
Starter clutch bolt	3.0 m-kg	(22 ft-lb)
Shift cam locating bolt	1.7 m-kg	(12 ft-lb)
Detent assembly	4.3 m-kg	(31 ft-lb)
Transmission bearing caps	2.0 m-kg	(14 ft-lb)
Crankshaft bolts 8 mm	2.0 m-kg	(14 ft-lb)
10 mm	3.7 m-kg	(27 ft-lb)
Clutch holding nut	12.0 m-kg	(87 ft-lb)
Clutch spring screws	0.9 m-kg	(7 ft-lb)
Middle gear case mounting screws	2.3 m-kg	(17 ft-lb)
Rotor holding bolt	3.5 m-kg	(25 ft-lb)
Bearing housing bolt	2.2 m-kg	(16 ft-lb)
Oil pipe union bolt	2.1 m-kg	(15 ft-lb)
Oil pump drive gear nut	10.0 m-kg	(72 ft-lb)
Crankshaft turning nut	2.3 m-kg	(17 ft-lb)
Cylinder head 8 mm	2.0 m-kg	(14 ft-lb)
10 mm	3.5 m-kg	(25 ft-lb)
Cylinder holding nuts	2.0 m-kg	(14 ft-lb)
Camshaft cap nuts	1.0 m-kg	(7 ft-lb)
Engine mounting bolts 10 mm	5.5 m-kg	(40 ft-lb)
12 mm	9.5 m-kg	(69 ft-lb)
Engine oil drain plug	4.3 m-kg	(31 ft-lb)
Oil filter mounting bolt	3.2 m-kg	(23 ft-lb)
Middle gear drain plug	4.3 m-kg	(31 ft-lb)
Final gear assembly mounting nuts	4.0 m-kg	(29 ft-lb)
Chassis		
Front axle nut	10.7 m-kg	(77 ft-lb)
Front axle holder nuts	2.0 m-kg	(14 ft-lb)
Rear axle nut	15.0 m-kg	(108 ft-lb)
Rear axle pinch bolt	0.6 m-kg	(4 ft-lb)
Rear shock absorber (Top)	3.5 m-kg	(25 ft-lb)
(Bottom)	4.0 m-kg	(29 ft-lb)
Brakes		
Caliper support bolt	1.8 m-kg	(13 ft-lb)
Caliper mounting bolt	3.5 m-kg	(25 ft-lb)
Brake hose union bolt	2.6 m-kg	(19 ft-lb)
Disc mounting bolt	2.0 m-kg	(14 ft-lb)
Front fork pinch bolt	1.8 m-kg	(13 ft-lb)
Steering stem top bolt	8.6 m-kg	(62 ft-lb)
Swing arm pivot lock nut	10.0 m-kg	(72 ft-lb)
Rear shock absorber nut	3.0 m-kg	(22 ft-lb)

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C. Engine/Transmission oil (XS750-2D)

2. Engine/Transmission oil and oil filter replacement.

g. Add oil through the dip stick hole. Specifications should be changed as follows:

Oil quantity: Periodic Oil Change
3.0 liter (3.3 US qt)
With oil filter change
3.5 liter (3.7 US qt)

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D. Middle Gear/Final Gear Oil (XS750D, XS750-2D)

2. Gear oil replacement

d. Fill the gear case(s) up to specified level. Specifications should be changed as follows:

Oil Capacity:
Middle gear case: 375cc(12.7 U.S. fl oz)
Final gear case: 300cc(10.0 U.S. fl oz)

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F. Cam Chain Adjustment (XS750-2D)

The cam chain tensioner stopper bolt is located on the right (inboard) side of the tensioner boss.

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H. Compression Pressure Measurement (XS 750D, XS750-2D)

Procedure 5.

Specifications should be changed as follows:

Compression pressure: (at sea level)	
Standard: 10 kg/cm²	(142 psi)
Minimum: 9 kg/cm²	(128 psi)
Maximum: 11 kg/cm²	(156 psi)

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C. Front And Rear Brake (XS750D, XS 750-2D)

1. Brake adjustment

a. Front brake lever free play

The front brake lever should be so adjusted that it has a free play 5 ~ 8mm (0.2 ~ 0.3 in) at the lever end.

1) Loosen the locknut on the brake lever.

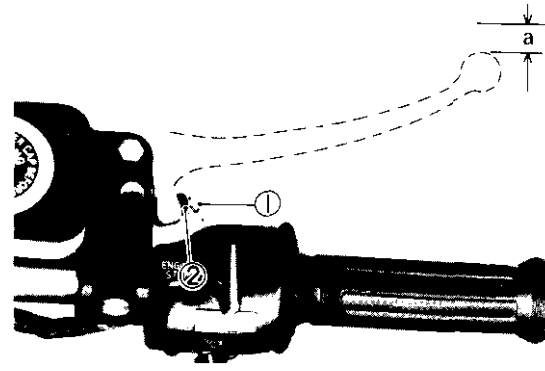
2) Turn the adjustor so that the brake lever movement at the lever end is 5 ~ 8 mm (0.2 ~ 0.3 in) before the adjustor contacts the master cylinder piston.

3) After adjusting, tighten the locknut.

NOTE:

Check for correct play and make it is working properly.

Free play: 5 ~ 8 mm (0.2 ~ 0.3 in)



1. Adjustor 2. Locknut
a. 5 ~ 8 mm (.02 ~ 0.3in)

b. Rear brake pedal free play

CAUTION:

Proper pedal free play is essential to avoid excessive brake drag.

1) Loosen the adjustor locknut (for pedal height).

2) By turning the adjustor bolt clockwise or counterclockwise, adjust the brake pedal position as shown in the illustration.

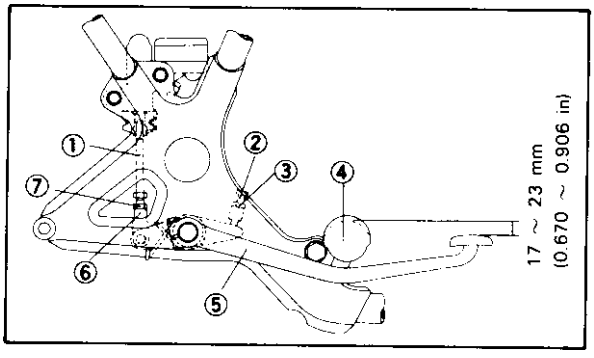
3) Secure the adjustor locknut.

4) Loosen the brake rod adjustor locknut.

5) Turn in the brake rod until it lightly touches the master cylinder, then turn it out by approx. 1-½ ~ 1-¾ turns.

NOTE:

See that the punched mark on the brake rod is not above the top surface of the adjustor locknut in securing the brake rod adjustor locknut.



1. Brake rod
2. Adjustor bolt (for pedal height)
3. Locknut
4. Footrest
5. Brake pedal
6. Joint
7. Locknut

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5-3. BRAKES (XS750D, XS750-2D)

The shim in the caliper is no longer used, and a set of two pad springs has been changed into a one piece type.

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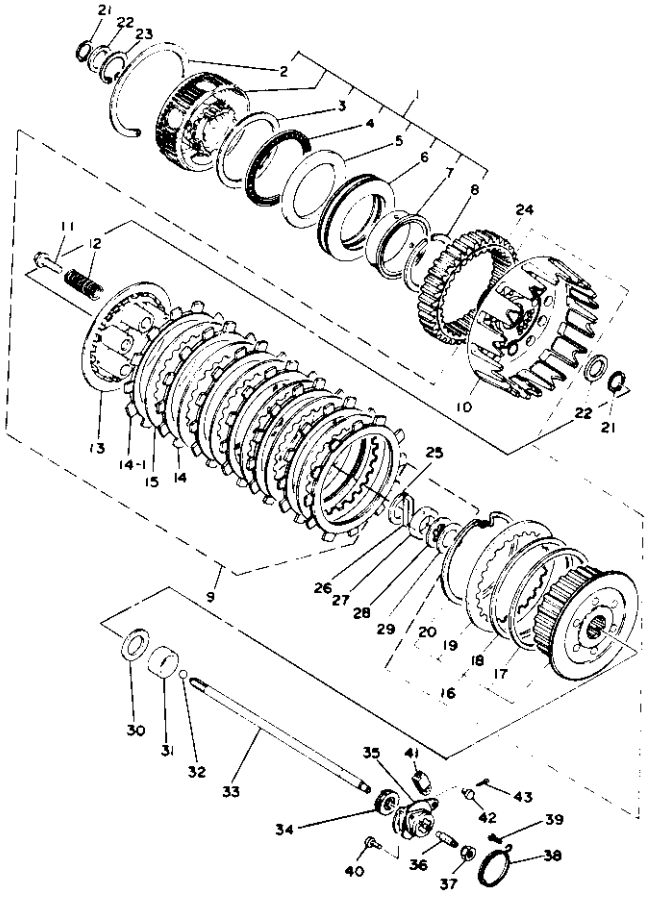
C. Muffler, Footrest, Brake Pedal (XS750-2D Only)

The muffler has been changed from 3 into 1 to 3 into 2.

XS750D, XS750-2D



1 Damper assembly
2. Circlip
3 Plate washer (76-95-0.8)
4. Bearing
5. Plate washer (69-95-5.4)
6. Damper spring
7. Collar
8. Circlip
9. Clutch assembly
10. Clutch housing complete
11. Screw
12. Compression spring
13. Pressure plate
14. Friction plate
14-1. Friction plate (cork lining)
15. Clutch plate 1
16. Clutch boss assembly
17. Seat plate
18. Clutch boss spring
19. Clutch plate 2
20. Circlip
21. Circlip (S-20)
22. Plate washer (21.2-29.2)
23. Circlip
24. Primary driven gear (45T)
25. Plate washer (22-36-2.6)
26. Push rod 1
27. Hexagon nut
28. Lock washer
29. Conical spring washer
30. Plate washer (25.2-39-1.0)
31. Spacer
32. Ball (5/16 inch)
33. Push rod
34. Oil seal (SD-8-25.8)
35. Ball screw assembly
36. Adjusting screw
37. Adjusting nut
38. Torsion spring
39. Spring hook
40. Pan head screw
41. Joint
42. Pin
43. Cotter pin

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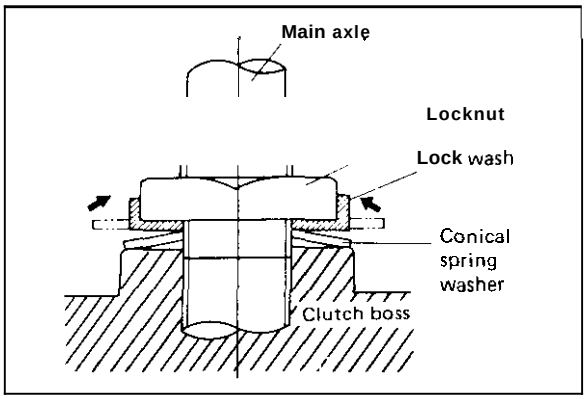
G. Clutch and Primary Drive **(XS750D, XS750-2D)**

1. Install clutch spacer, plate washer, and clutch boss. Install the spring washer, lock washer and locknut. Use the clutch holding tool and special 32mm deep socket (special tool) to tighten the clutch nut.

NOTE:

Bend over locking tab after locknut is tightened.

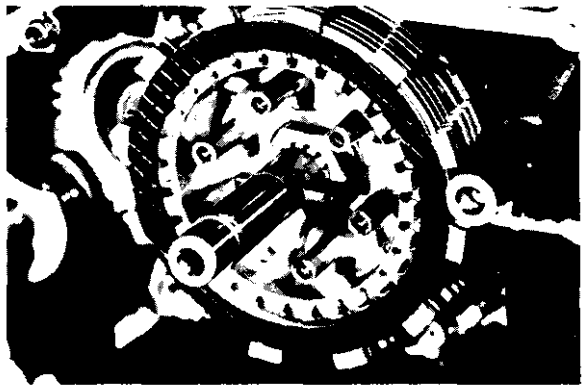
Clutch nut torque:
12.0 m-kg (87 ft-lb)



2. Install a clutch friction plate, then a steel clutch plate. Install clutch friction plates and steel plates alternately.

NOTE:

Each steel clutch plate has a tab. There is a dot on the clutch boss to correspond to each tab. Install a clutch plate tab next to one dot. Position the next steel plate next to the next dot on the clutch boss. Follow this pattern clockwise around the clutch boss until all friction and steel clutch plates are installed. In this case, the friction plate with cork lining should be installed on the extreme outside.



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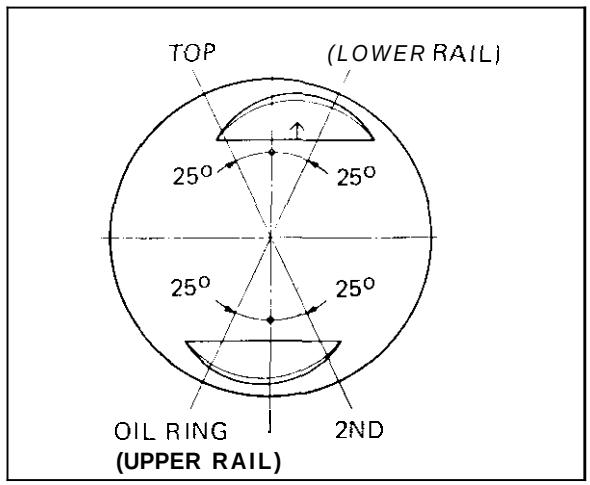
N. Piston and Cylinder **(XS750D. XS750-2D)**

4. Position piston rings as shown.

NOTE:

1) Make sure ends of oil ring expanders are not overlapped.

2) Manufacturer's marks or numbers stamped on the rings are on the top side of the rings. Coat pistons and rings well with oil.



5. Install the cylinder. A ring compressor is usually not necessary.

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P. Camshaft installation

Delete the following sentences.

NOTE:

Manufacturer's marks or numbers stamped on the rings are on the top side of the rings. Coat pistons and rings well with oil.

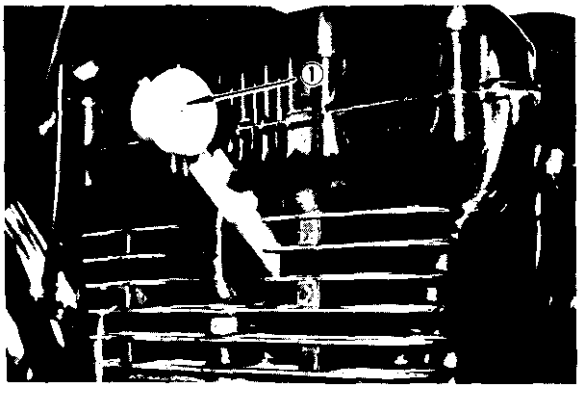
5. Install the cylinder. A ring compressor is usually not necessary.

3-6. TIMING PLATE SETTING (XS750D, XS750-2D)

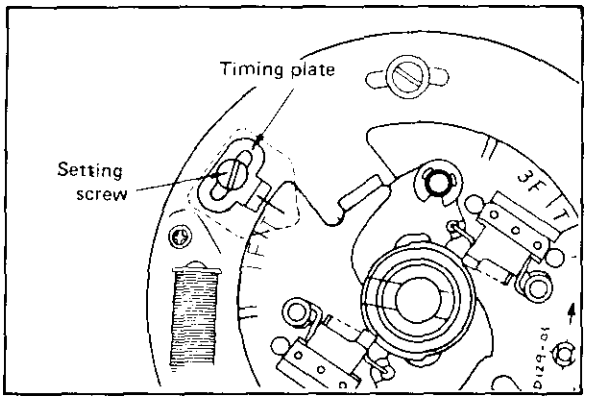
A. Timing plate setting

Adjustments required when the following parts are replaced; crankcase, crankcase cover (left side) governor assembly and/or crankshaft.

1. Install the governor and breaker plate assembly on the crankcase cover (left side).
2. Install the dial gauge in the spark plug hole in the left cylinder (No.1 cylinder). The dial gauge stand (special tool) is required.
3. By turning the crankshaft counterclockwise slowly, locate T.D.C. on the power stroke in the left cylinder (No. 1 cylinder).
4. Align the timing plate tip with the "T" mark on the governor for the left cylinder (No. 1 cylinder). Lock the timing plate setting screw with paint.
5. For the subsequent operations, follow the procedure described "2-5. C. Ignition Timing".



1. Dial gauge



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4-1. CARBURETOR (XS750-2D)

B. Specifications

Specification should be changed as follow:

Starter jet: #25

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5-2. REAR WHEEL (XS750-2D Only)

A. Removal

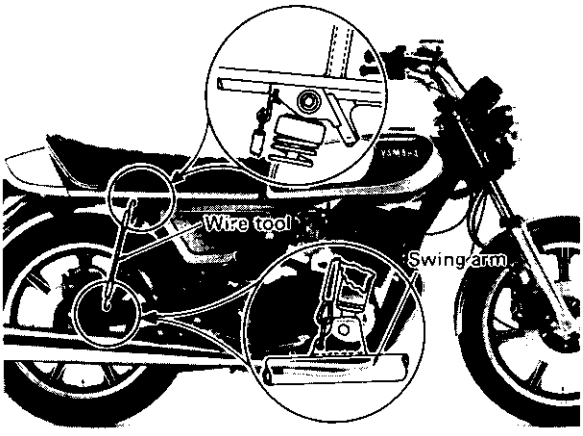
1. Place machine on side stand and remove left rear shock absorber.

NOTE:

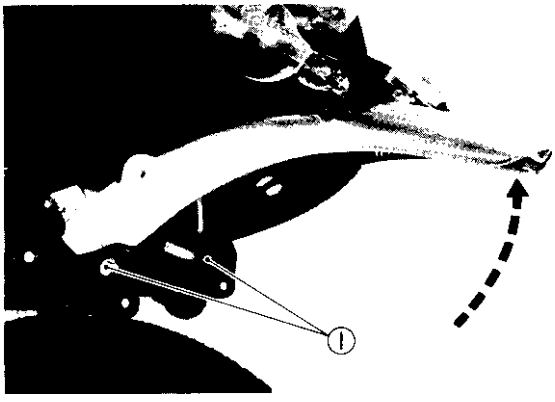
When reinstalling rear shock absorber, tighten to following torque:

Top mount:	3.5 m-kg (25 ft-lb)
Bottom mount:	4.0 m-kg (29 ft-lb)

2. Hook one end of the wire tool to the hook attached to the frame.
3. Apply your weight to the rear part of the seat, and contract the rear shock absorber by pulling up the right side of the swing arm with your hand, then connect the free end *of* the wire tool to the swing arm as shown.
4. With the wire tool in this position, pull machine onto center stand.

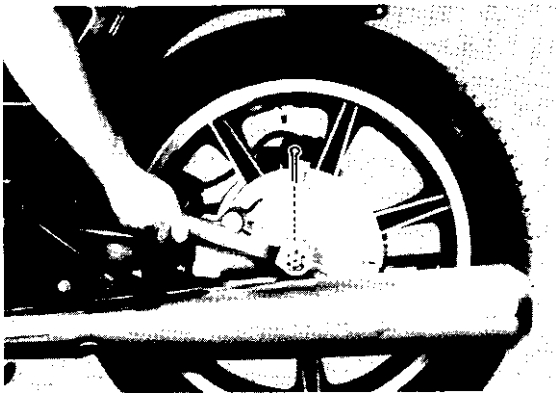


5. Raise the seat and unscrew the rear fender installation bolts until their threaded portion is completely out. Reinsert those bolts as stoppers while holding the rear fender.



1. **Installation** bolts

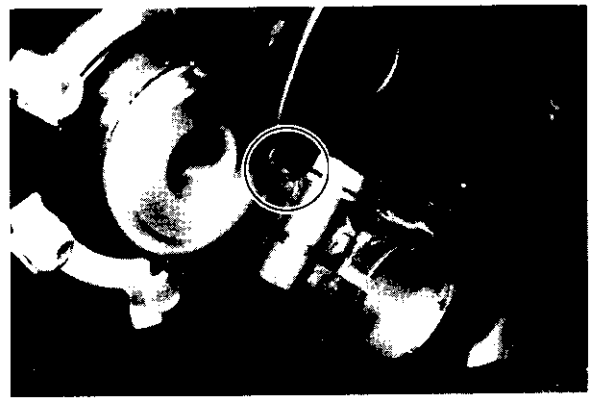
6. Remove the axle nut cotter pin and the axle nut.



7. Loosen the rear axle pinch bolt.

8. While supporting the brake caliper, pull out the rear axle.

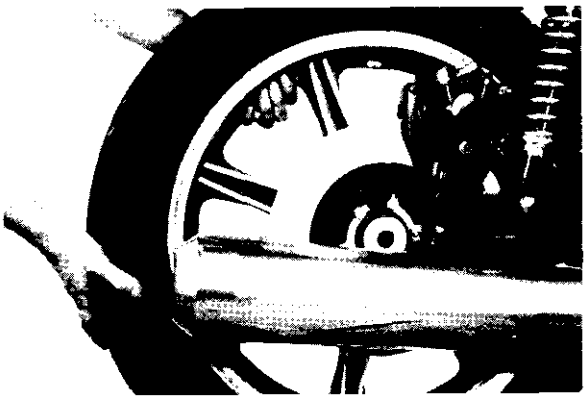
9. Hold up the brake caliper assembly and place it on the hook of the rear arm.



10. Move the wheel to the right side to separate it from the final gear case and remove the rear wheel.

NOTE:

Do not depress the brake pedal when the wheel is off the machine so that the caliper piston is not forced out of the cylinder.



11. To install the rear wheel, reverse the removal procedure.

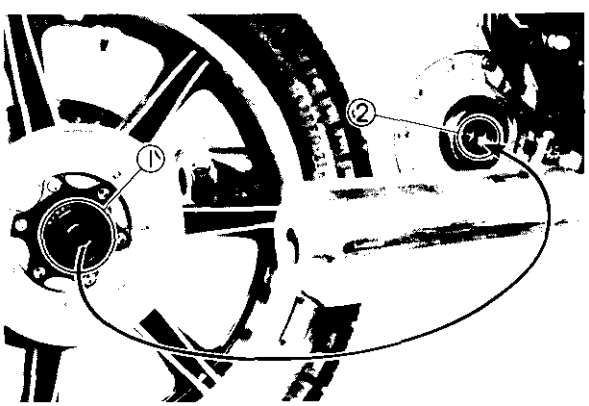
NOTE:

When installing the rear wheel, be sure the splines on the wheel hub fit into the final gear case. Make sure there is an enough gap between the disc pads for the brake disc.

CAUTION:

Always use a new cotter pin when re-assembling rear axle nut.

Tightening torque:		
Axle nut:	15.0 m-kg	(108 ft-lb)
Axle pinch bolt:	0.60 m-kg	(4 ft-lb)



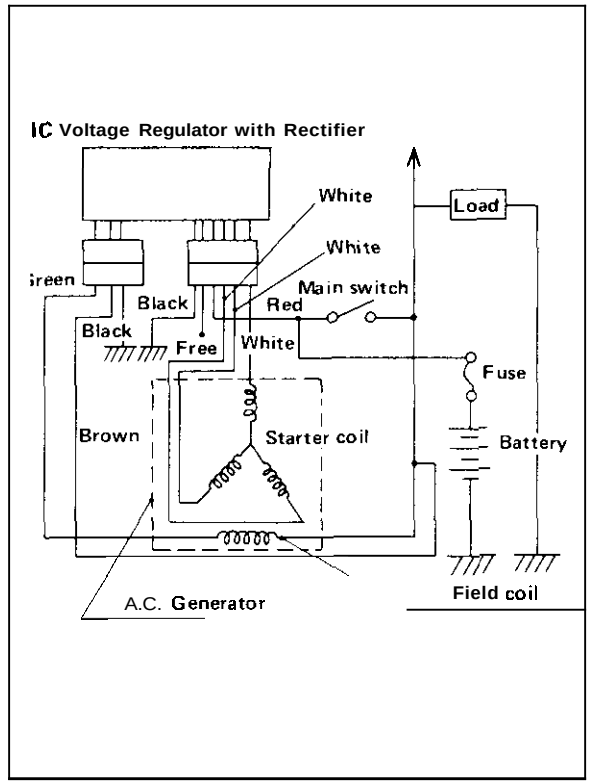
1 **Rear wheel hub splines** 2. Final gear case splines

6-2. CHARGING SYSTEM (XS750-2D Only)

A. Charging Circuit Diagram

NOTE:

Rectifier is combined with the Voltage Regulator in the same housing.



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C. Voltage Regulator (XS750-2D Only)

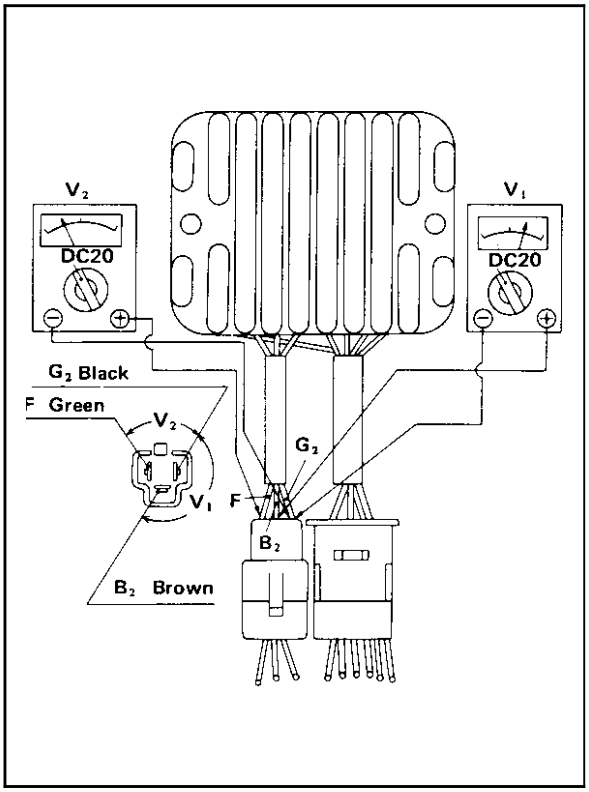
The regulator has been changed from a mechanical-point type to an IC(Integrated Circuit) type. The IC Voltage Regulator is a small and normally very reliable component. Due to its construction, it is lightweight and free from the wear and misadjustment associated with mechanical voltage regulators. If the following inspection reveals that the regulator is faulty, it cannot be adjusted and must be replaced.

Checking IC Voltage Regulator

1. Measure the specific gravity of the battery fluid. If it is less than 1.26, remove the battery and recharge until it is more than 1.26.
2. Remove the left hand side cover.
3. Check the battery terminals and couplers for looseness.
4. Connect two Yamaha pocket testers to the regulator coupler as illustrated.

CAUTION:

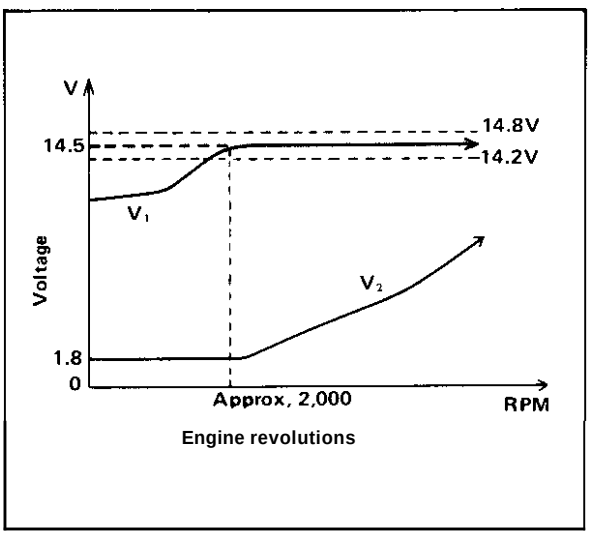
Beware of short-circuiting when connecting tester lead wires to the coupler.



5. Turn the main switch on. Make sure that V 2is less than1.8V.

NOTE:
Do not turn on lights or signals.

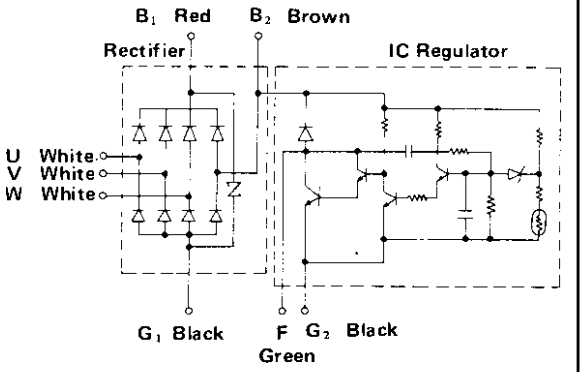
6. Make sure that V2 gradually increases up to 9 ~ 11V when the engine is started and its revolutions go up.
7. Make sure that V1 keeps the level of 14.2 ~ 14.8V even when engine revolutions increase.

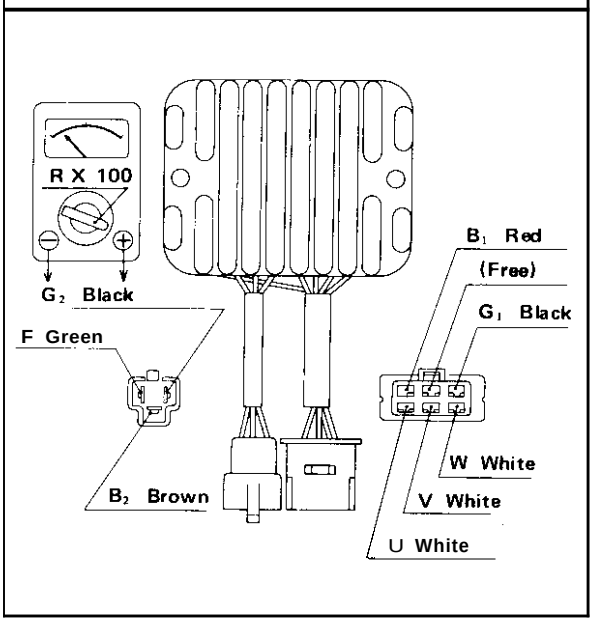


8. If these levels are not maintained, the regulator is defective and must be replaced.

Checking Silicon Rectifier

1. Check silicon rectifier as specified using Yamaha pocket tester.





Checking element	Pocket tester connecting point (+)Red	(-)Black	Good	Replace (element shorted)	Replace (element opened)
D_1	B_1	U	O	O	X
	U	B_1	X	O	X
D_2	B_1	V	O	O	X
	V	B_1	X	O	X
D_3	B_1	W	O	O	X
	W	B_1	X	O	X

D_4	B_1 B_2	B_2 B_1	O X	O O	X X
D_5	U G_1	G_1 U	O X	O O	X X
D_6	V G_1	G_1 V	O X	O O	X X
D_7	W G_1	G_1 W	O X	O O	X X
D_8	B_2 G_1	G_1 B_2	O X	O O	X X

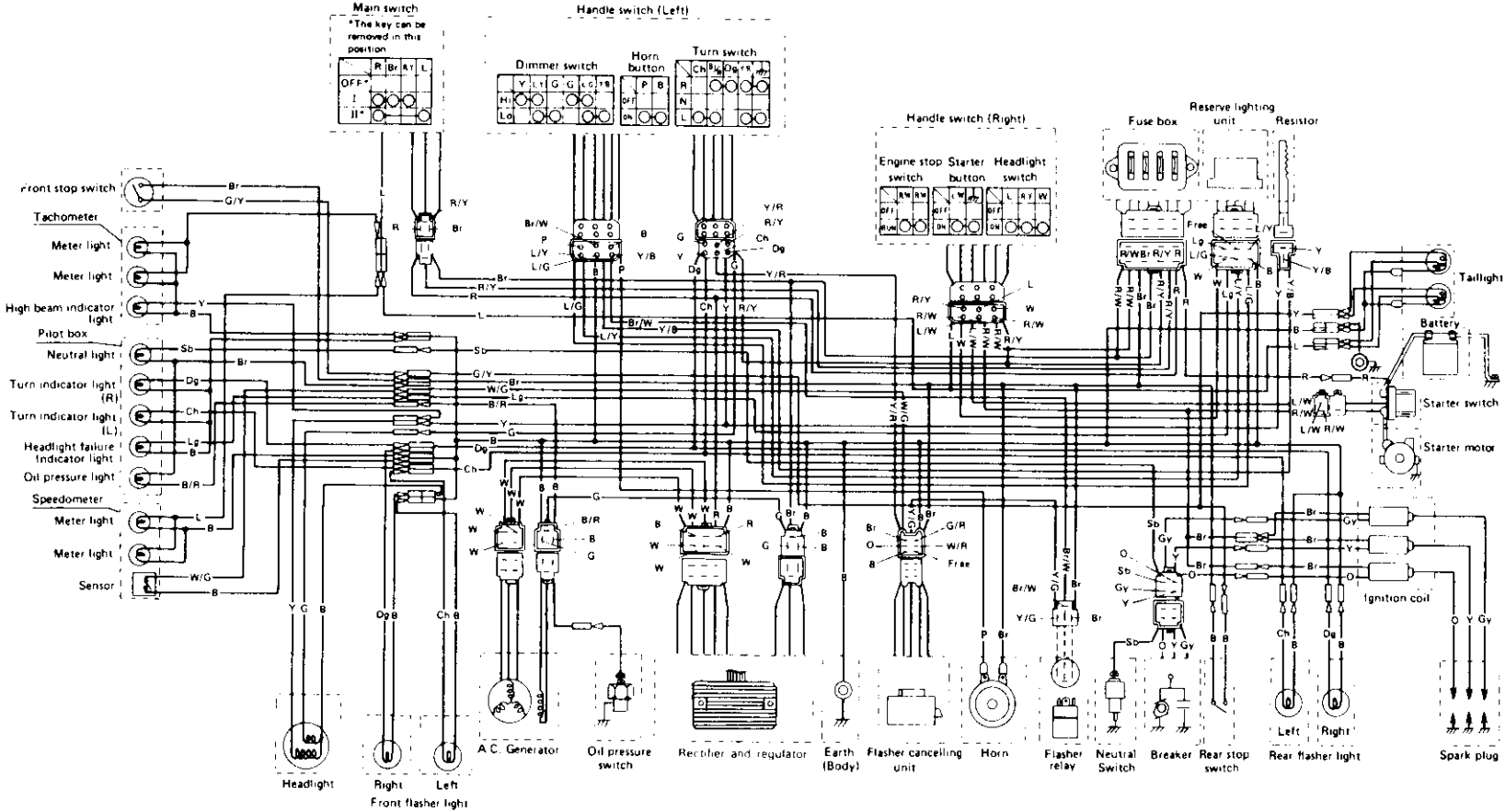
O: Continuity X: Discontinuity (∞)

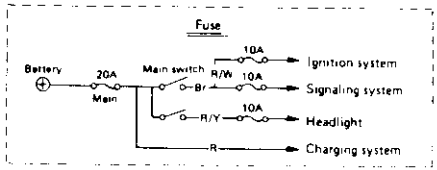
Even of one of elements is broken, replace assembly.

CAUTION:

The silicon rectifier can be damaged if subject to overcharging. Special care should be taken to avoid a short circuit and/or incorrect connection of the positive and negative leads at the battery. Never connect the rectifier directly to the battery to make a continuity check.

XS750-2D Circuit Diagram





COLOR CODE

Br	Brown	L	Blue	Y B	Yellow/Black
R	Red	Gy	Gray	Br W	Brown/White
W	White	O	Orange	Y G	Yellow/Green
Lg	Light Green	R W	Red/White	W G	White/Green
B	Black	L W	Blue/White	Y R	Yellow/Red
Y	Yellow	R L	Red/Blue	W R	White/Red
Dg	Dark Green	L Y	Blue/Yellow	G R	Green/Red
Ch	Chocolate	L G	Blue/Green		