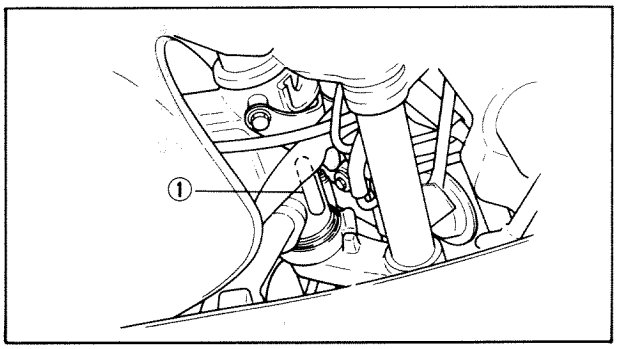
GENERAL INFORMATION

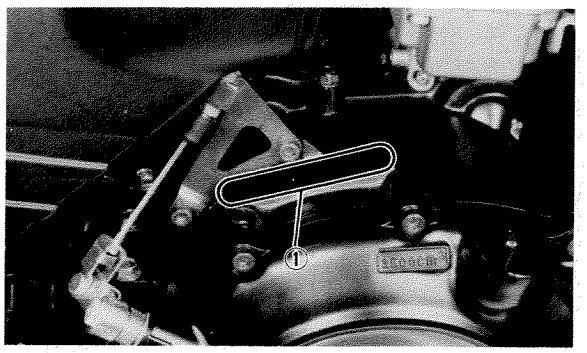
MOTORCYCLE IDENTIFICATION



Frame Serial Number

The frame serial number ① is stamped into the rightside of the steering head pipe.

Starting Serial Number:	
XJ750	45T-000101



Engine Serial Number

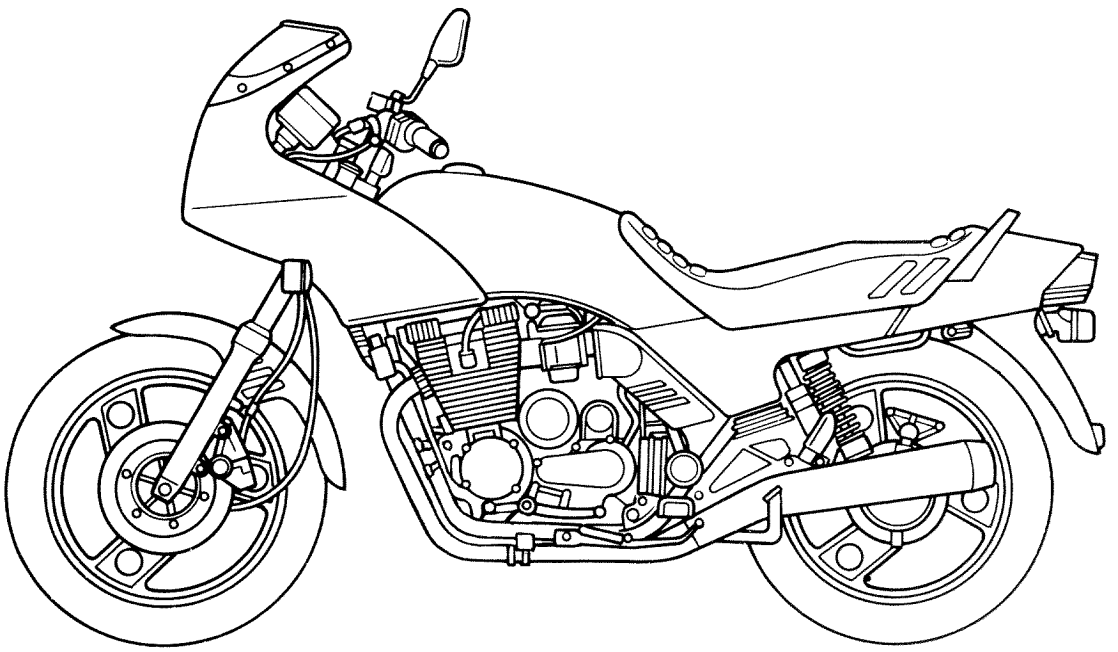
The engine serial number is stamped into the elevated part of the right rear section of the engine.

NOTE:

The first three digits of these numbers are for model identification; the remaining digits are the unit production number.

NOTE:

Designs and specifications are subject to change without notice.

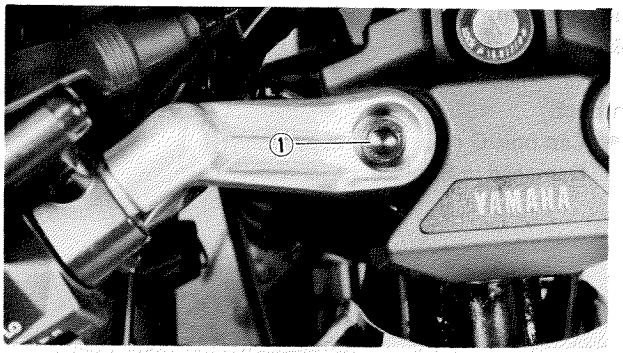


Front Fork Oil Change

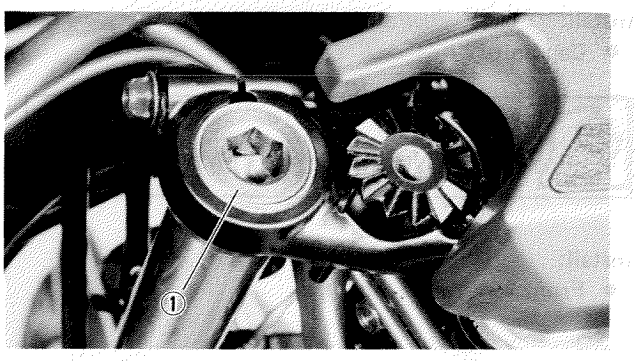
WARNING:

Secure support the motorcycle so there is no danger of it falling over.

Raise:
- Motorcycle front end

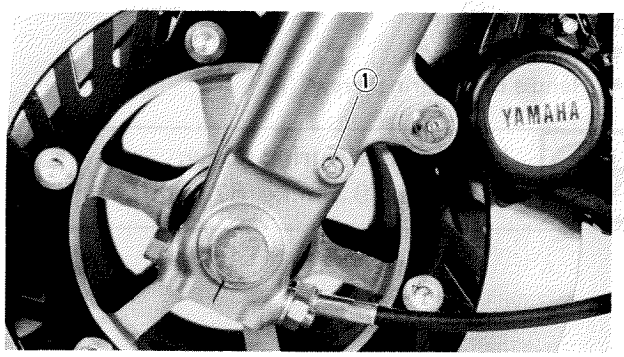


Remove:
- Handle bar rubber cap
- Handle bar securing screw ①
- Handle bar



Remove:
- Front fork rubber cap
- Cap bolt ①

Place:
- Receptacle under each drain hole.



Remove:
- Drain screw ①

WARNING:

Danger do not allow oil to contact disc brake components. Remove any oil found on these components to avoid diminished braking capacity.

After most of the oil has drained, slowly raise and lower outer tubes to pump out remaining oil.

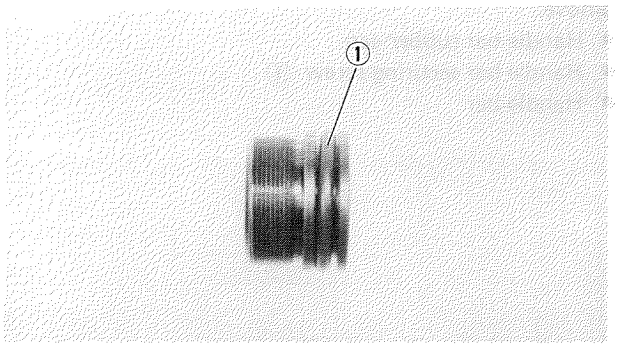
Inspect:
- Drain screw gasket
  Damaged → Replace.

Install:
- Drain screw gasket
- Drain screw

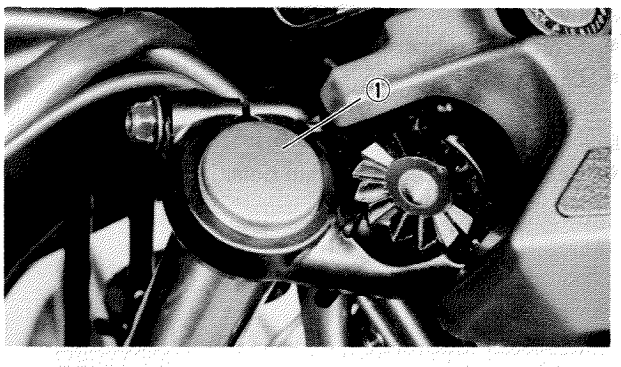
Pour:
- Specified fork oil → (Inner fork)

SAE 10W30 Type SE Motor Oil:
Oil Capacity (each fork):
286 ± 4 cm³ (10.1 ± 0.14 Imp oz, 9.67 ± 0.14US oz)

Slowly pump forks up and down to distribute the oil after filling.



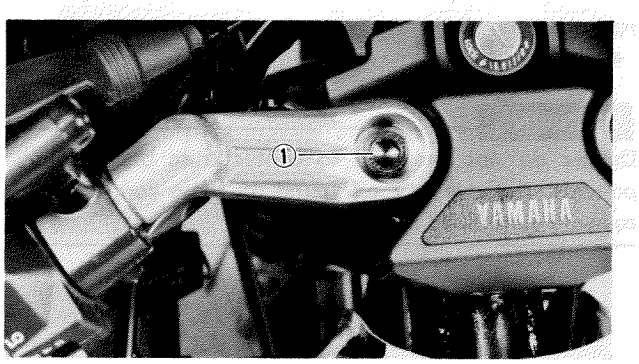
Inspect:
- Cap bolt O-ring ①
  Damaged → Replace.



Install:
- Cap bolt

Cap bolt:
23 Nm (2.3 m·kg, 17 ft-lb)

Install:
- Front fork rubbe cap ①

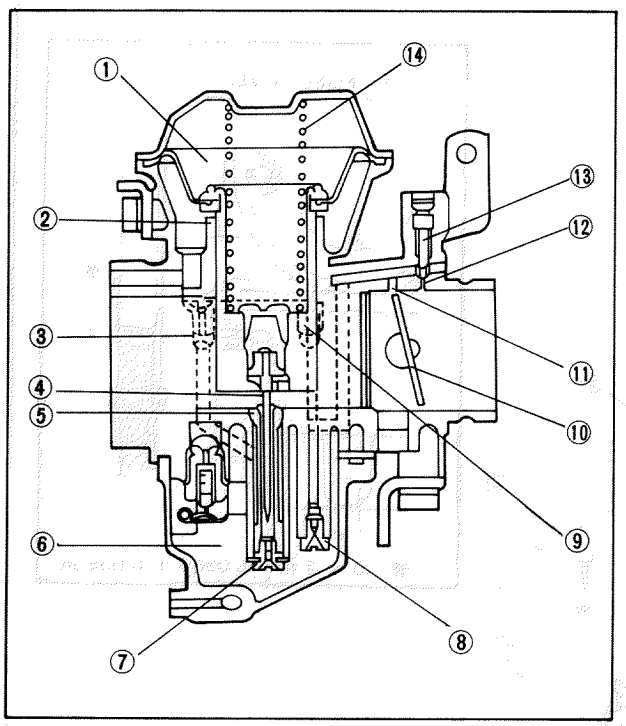


Install:
- Handle bar
- Handle bar securing screw ①

Handle bar securing screw:
93 Nm (9.3 m.kg, 67 ft-lb)

Install:
- Handle bar rubber cap

CARBURETOR



Section View

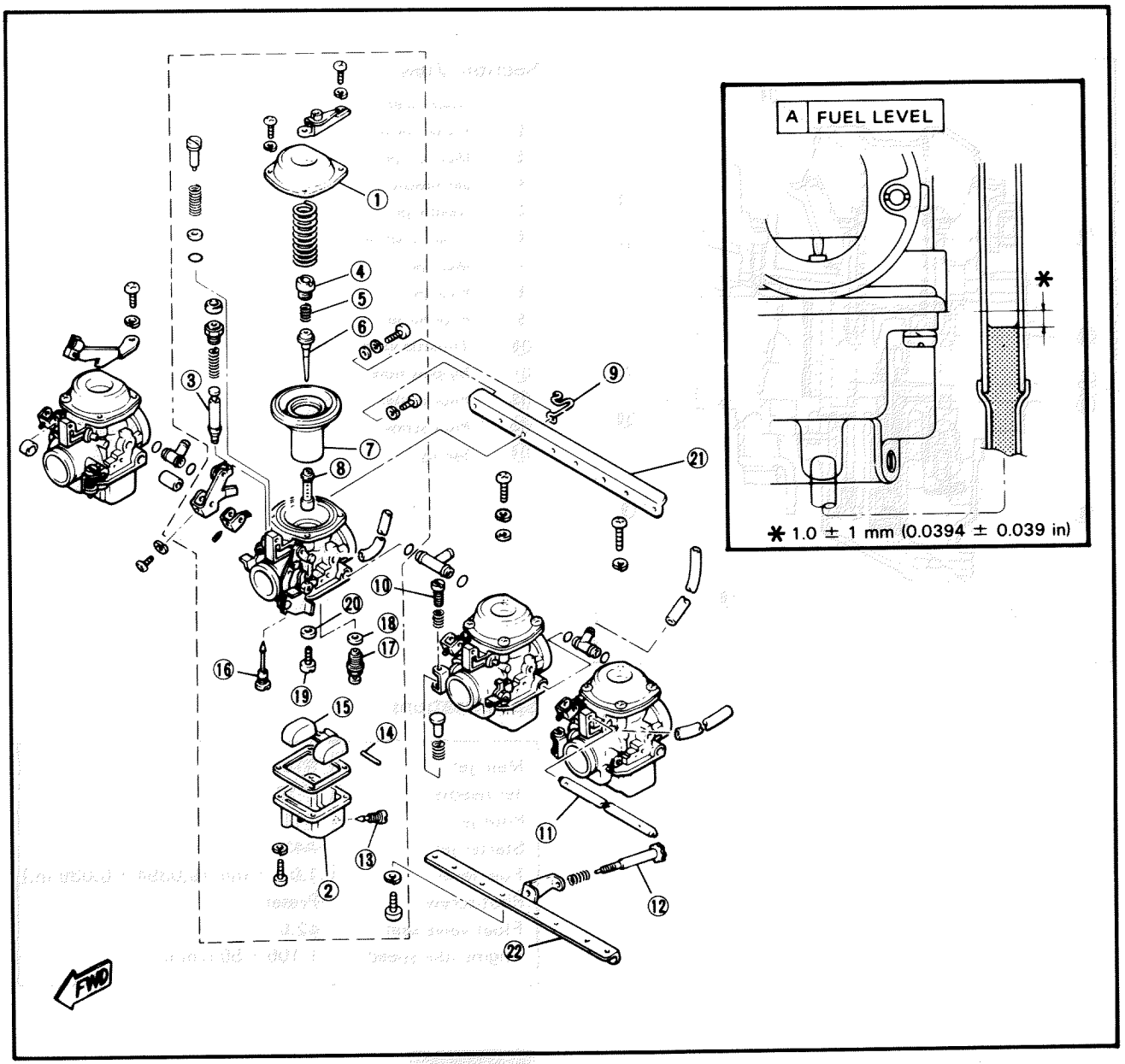
① Diaphragm
② Piston valve
③ Main air jet
④ Jet needle
⑤ Needle jet
⑥ Float chamber
⑦ Main jet
⑧ Pilot jet
⑨ Pilot air jet
⑩ Throttle valve
⑪ By-pass hole
⑫ Pilot outlet
⑬ Pilot screw
⑭ Spring

Specifications

Main jet	#106
Jet needle	Y-18
Pilot jet	#41
Starter jet	#43
Fuel level	1.0 ± 1 mm (0.0394 ± 0.039 in.)
Pilot screw	Preset
Float valve seat	ϕ2.0
Engine idle speed	1.100 ± 50 r/min

CAUTION:
The pilot screw settings are adjusted for maximum performance at the factory attempt to change these settings as any alteration will decrease engine performance.

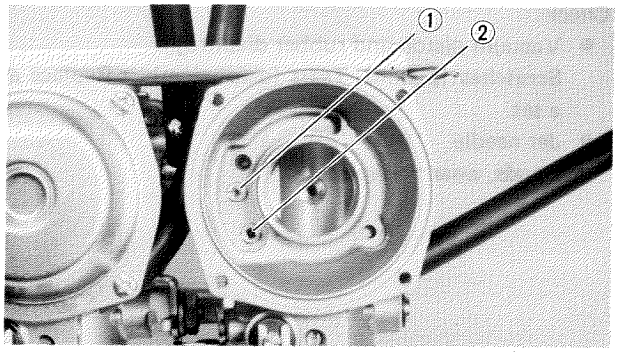
1. Vacuum chamber cover
2. Float chamber cover
3. Starter plunger
4. Jet needle cover
5. Set spring
6. Jet needle
7. Vacuum piston
8. Main nozzle
9. Clutch wire clip
10. Synchronizing screw
11. Starter lever shaft
12. Throttle stop screw
13. Drain screw
14. Float pin
15. Float
16. Pilot jet
17. Float valve
18. Float valve washer
19. Main jet
20. Main jet washer
21. Upper support plate
22. Lower support plate



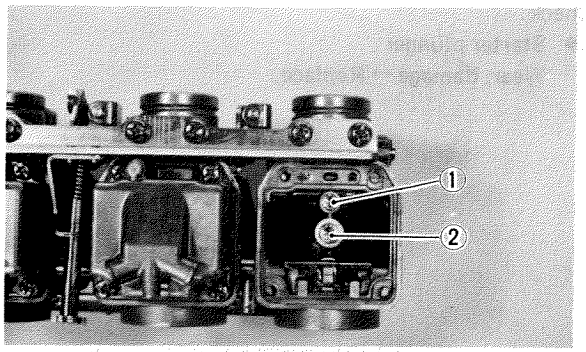
Disassembly

CAUTION:

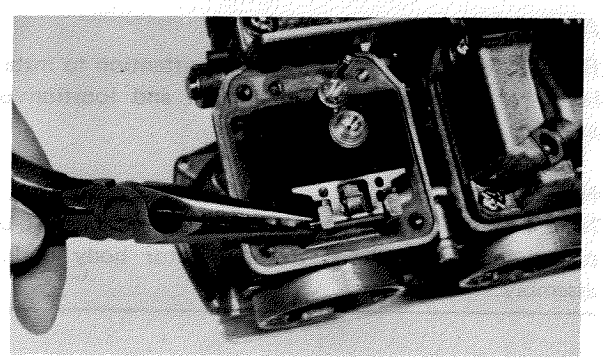
Separation of the carburetor is not recommended. Usual disassmebly for cleaning and inspection is not necessary to separate the carburetors. The carburetor body support screws are locked with a locking compound such "LOCTITE". If the carburetors are separated, misalignment will result.



Remove:
- Vacuum chamber cover
- Vacuum piston
- Jet needle
- Main air jet ①
- Pilot air jet ②
- Main nozzle
- Starter plunger



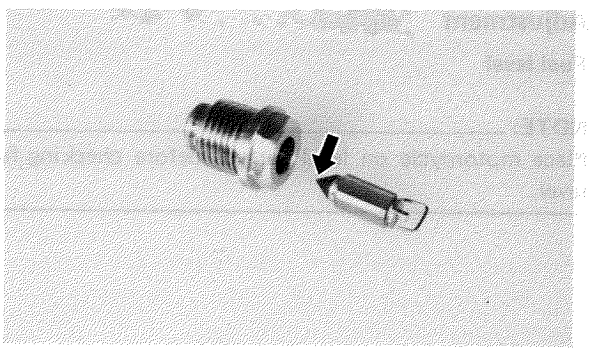
Remove:
- Float chamber cover
- Pilot jet ①
- Main jet ②



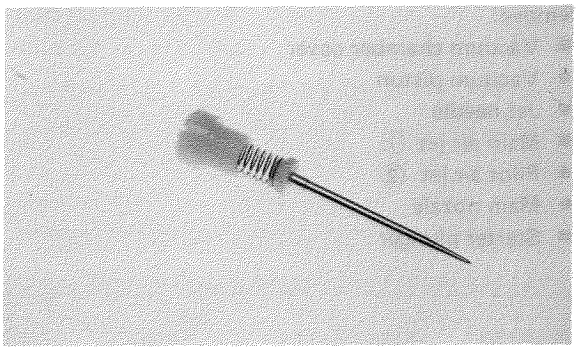
Remove:
- Float pin ①
- Float
- Float valve
- Float valve sheat

Inspection

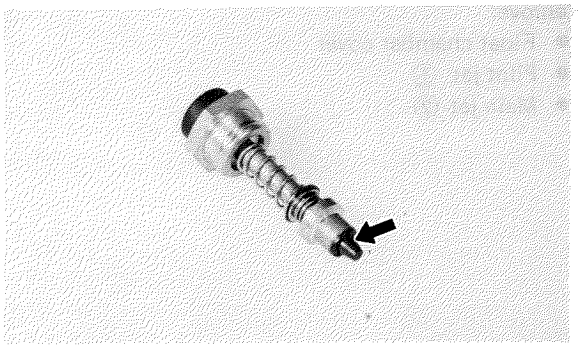
Check:
- Carburetor body and fuel passage
  Contamination → Follow these steps:
  Wash carburetor in petroleum-based solvent (Do not use any caustic carburetor cleaning solution).
  Blow out all passages and jets with compressed air.
- Floats
  Damage → Replace.



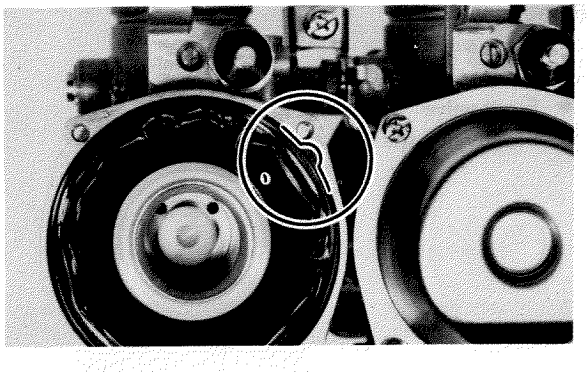
Check:
- Float needle valve and seat
  Wear, contamination → Replace as a set.



Check:
- Vacuum piston and rubber diaphragm
  Scratches (piston), **Tears** (diaphragm) → Replace as a set.
- Jet needle
  Bends, wear → Replace.



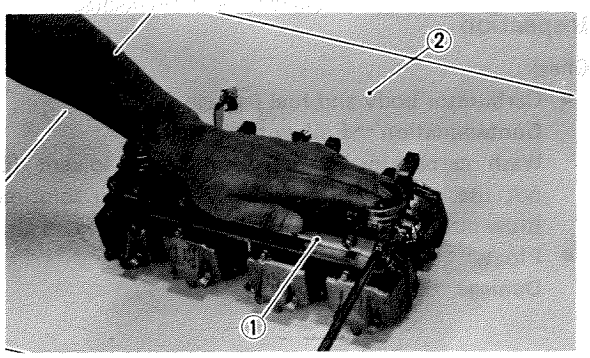
Check:
- Starter plunger
  Wear, damage → Replace.



Assembly

Reverse disassembly steps. Pay close attention to installation of vacuum piston diaphragm and location of each jet.

NOTE:
Note position of tab on diaphragm. This tab must be placed in the cavity of the carburetor body during assembly.

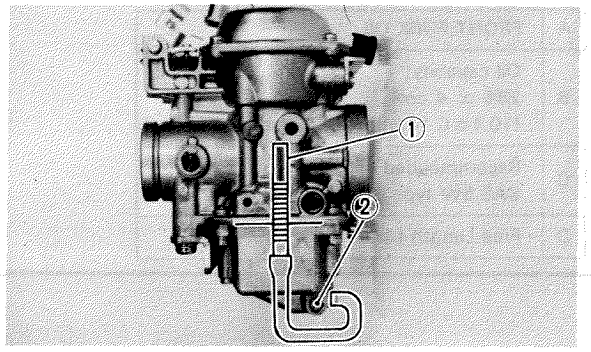


If the carburetors are separated, place the carburetors on a surface plate ② and install lower ① and upper support plate.
Apply loctite ® stud N' Bearing Mount (red) to securing screws.

Adjustment

Fuel level

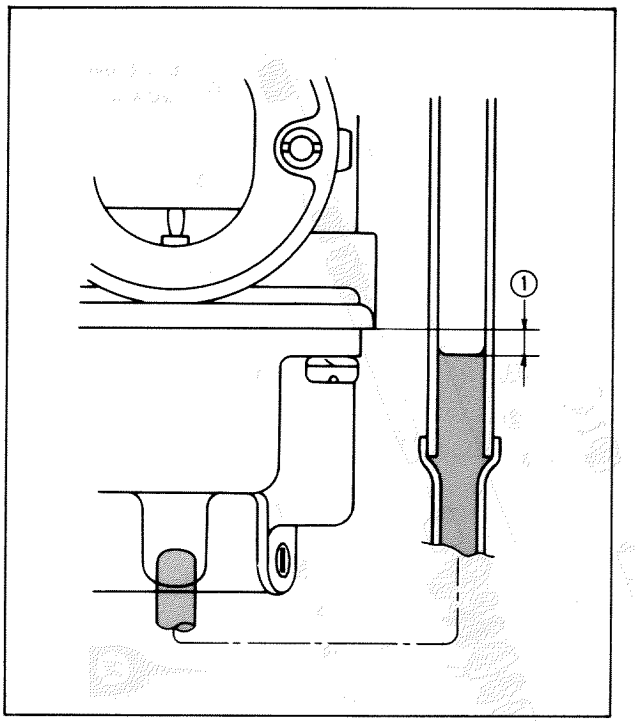
NOTE:
Place motorcycle on level surface before checking fuel level.



Connect:
- Fuel level gauge ① or 6 mm (0.24 in.) vinyl pipe.

Place:
- Fuel level gauge to carburetor mixing chamber body.

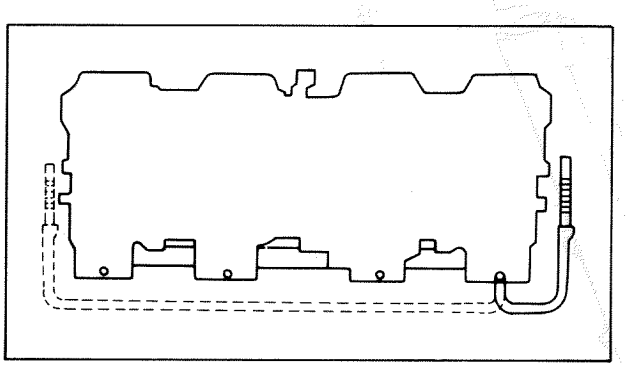
Loosen:
- Drain screw ② .



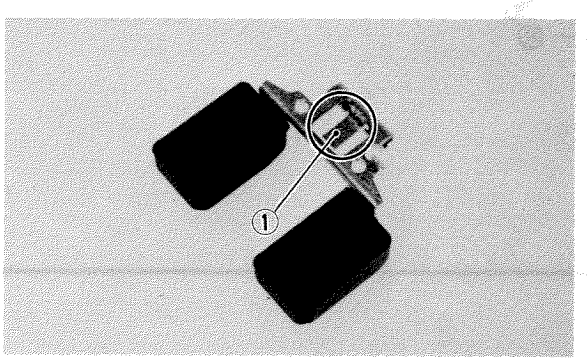
Set:
- Fuel cock to "ON" or "RES" and start engine. Stop it after a few minutes.

Check:
- Fuel level ① should be within specified range.

Fuel level
1.0 ± 1 mm (0.0394 ± 0.039 in.) below from the carburetor mixing chamber body edge.



NOTE:
Fuel level of each left and right side carburetor shouled be equal. If not, place a suitable size of wooden piece or the like under the center stand and adjust then check fuel level again.

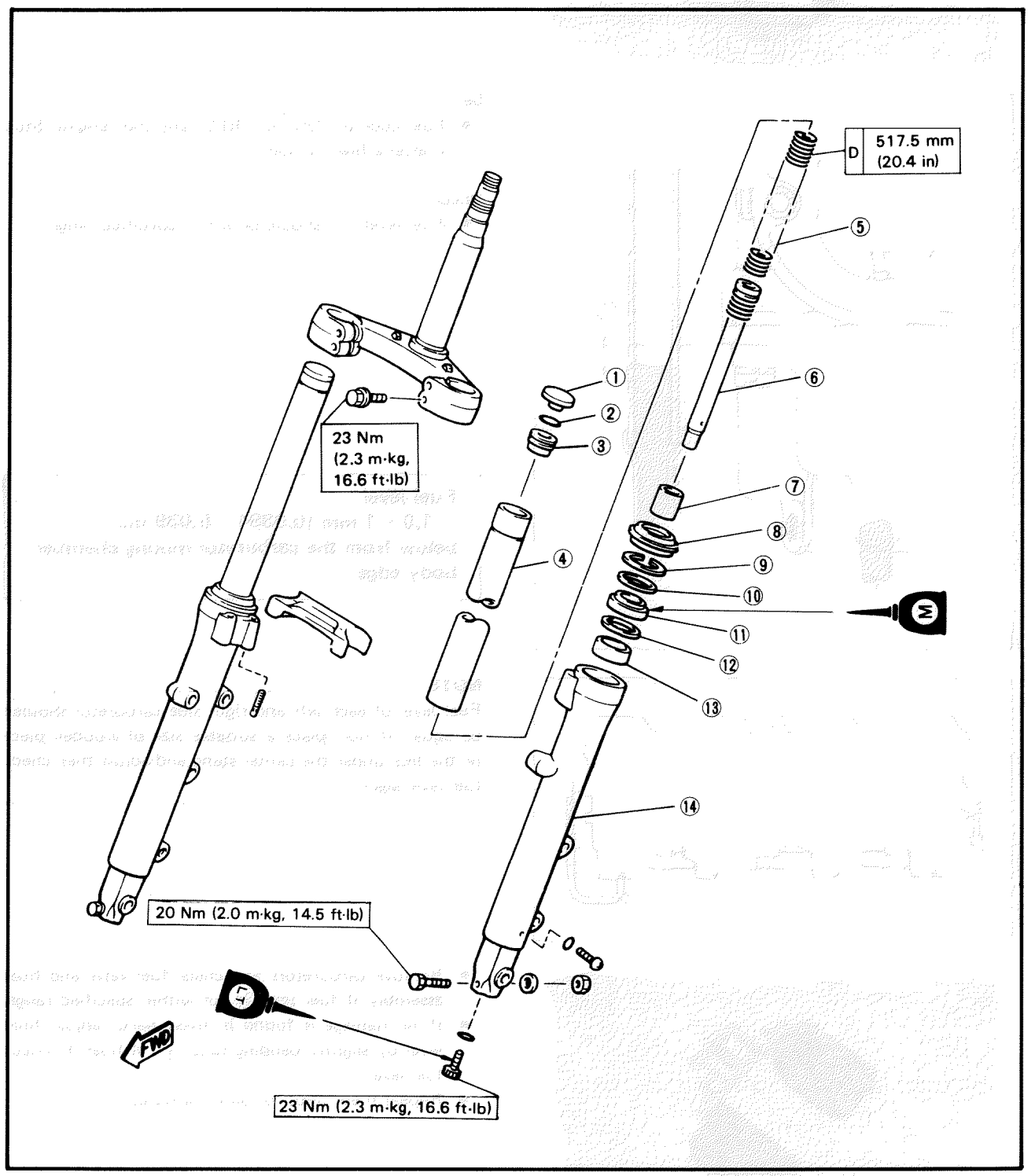


- Remove carburetors and check fuel valve and float assembly if fuel level is not within specified range.
- If no damage is found in these parts, adjust float level by slightly bending tang ① of float. Recheck fuel level.
- Repeat these steps for other carburetor.

FRONT FORK

1. Rubber cap
2. O-ring
3. Cap bolt
4. Inner tube
5. Fork spring
6. Damper rod
7. Taper spindle
8. Dust seal
9. Circlip
10. Washer
11. Fork oil seal
12. Washer
13. Guide bush
14. Outer tube

A	FRONT FORK OIL:
B	Oil capacity: 286 ± 4 cm³ (10.1±0.14 Imp oz, 9.67±0.14 US oz)
C	Recommended oil: SAE 5W type SE motor oil
D	Free Length Limit

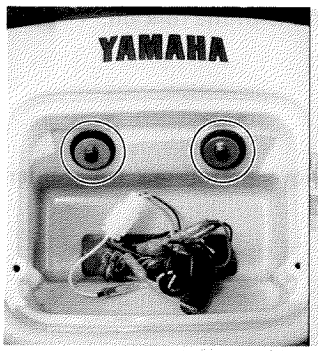


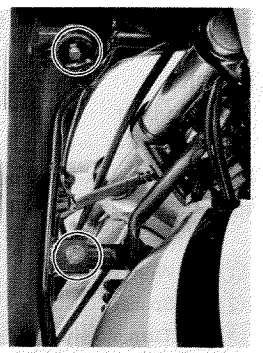
Removal and Disassembly

WARNING:

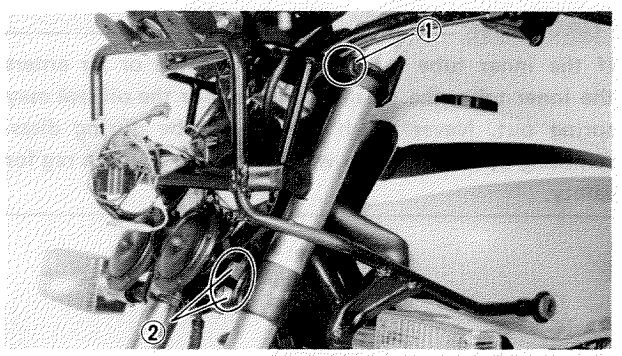
Securely support the motorcycle so there is no danger of it falling over.

Remove:
- Speedometer cable
- Front fender
- Front fork brace
- Front wheel
- Headlight unit



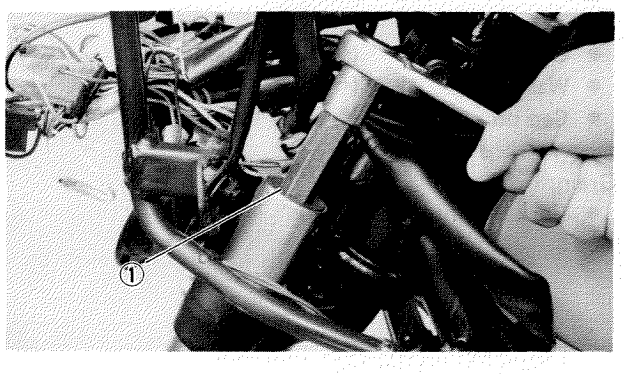


Remove:
- Windscreen assembly



Loosen:
- Handle crown pinch bolt ①
- Under bracket pinch bolts ②

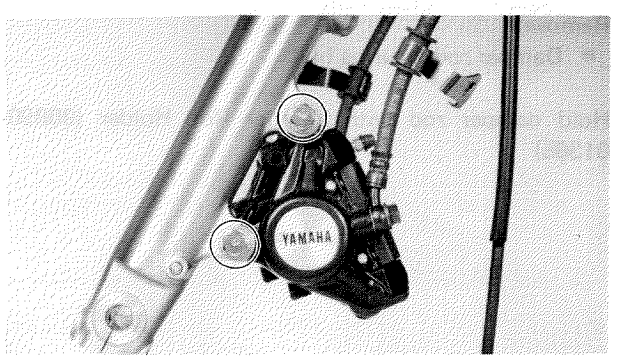
Slide down the front fork from the handle crown.



Tighten:
- Under bracket pinch bolts

Remove:
- Rubber cap

Loosen:
- Cap bolt ①

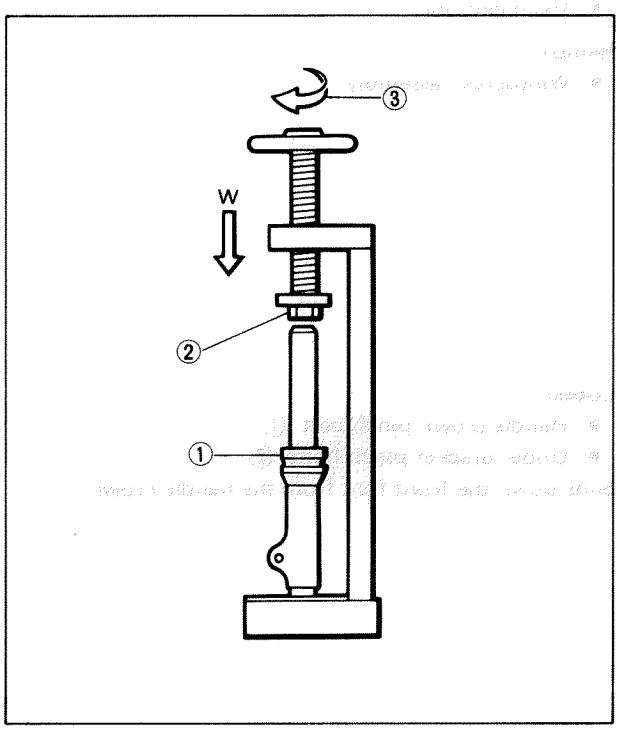


Remove:
- Disc brake caliper

Loosen:
- Under bracket pinch bolts

Remove:
- Front fork

Remove:
- Cap bolt (←Inner tube)
- Fork spring (←Inner tube)
- Dust seal (←Outer tube)
- Circlip (←Outer tube)
- Washer (←Outer tube)



Stretch the inner tube, and fill with the fork oil.

Install:
- Cap bolt

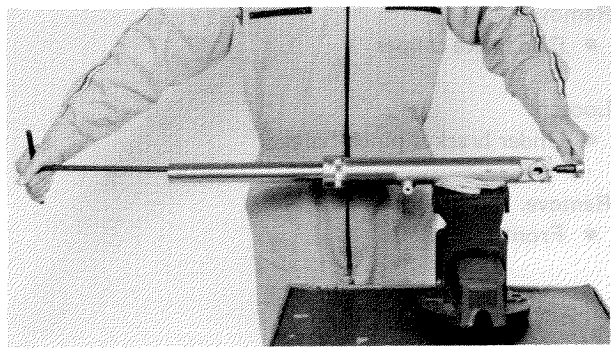
Press the inner tube to remove the oil seal from outer tube.

① Wrap with rag
② Spacer
③ Turn slowly

CAUTION:
If the inner tube is abruptly contracted or air enters the inner tube, the oil may spurt out or the oil seal may spring out. Never touch the inner tube during disassembling operation. Also wrap the oil seal with a rag for safety.

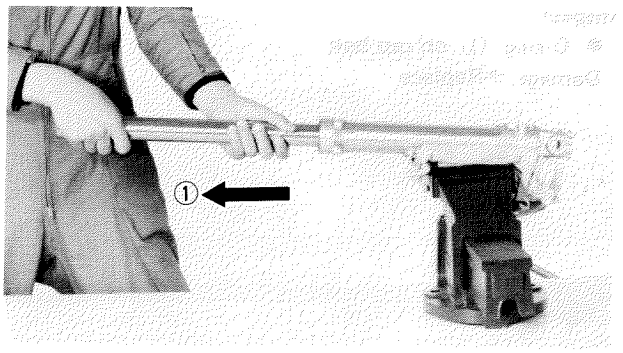
Remove:
- Oil seal (←Outer tube)
- Washer (←Outer tube)
- Cap bolt (←Inner tube)

Drain:
- Fork oil (into receptacle)



Remove:
- Damper rod securing bolt

Hold damper rod with Damper Rod Holder (90890-01365)



Remove:
- Damper rod
- Damper rod spring
- Inner fork tube
- Guide bush (←Outer tube)

Pull ① inner tube from outer tube.

Inspection

Inspect:
- Inner fork tube

Severely seratched or bent → Replace.
Damaged oil lock valve → Replace.

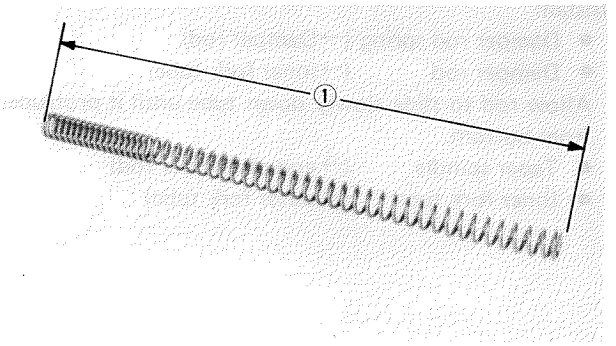
WARNING:

Do not attempt to straighten bent fork tube; this may dangerously weaken tube.

Inspect:
- Outer fork tube

Dents → Replace
Damaged fork seal seat → Replace
- Fork oil seal

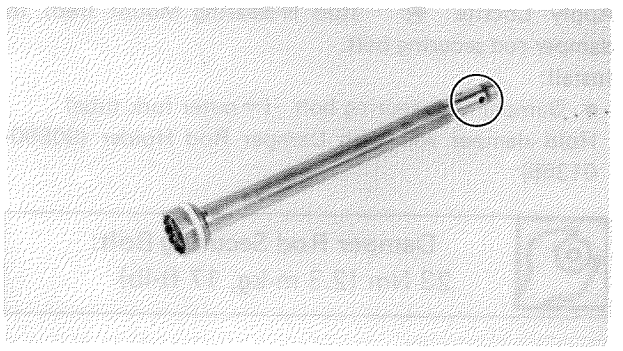
Lip damage → Replace
Outer surface damage → Replace



Inspect:
- Springs (free length) ①

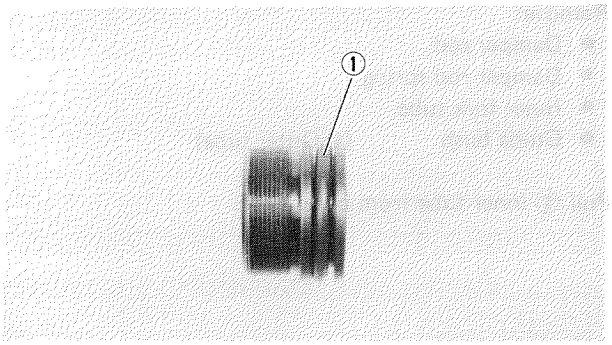
Outer of specification → Replace

Fork Spring Free Length Limit
517.5 mm (20.4 in)



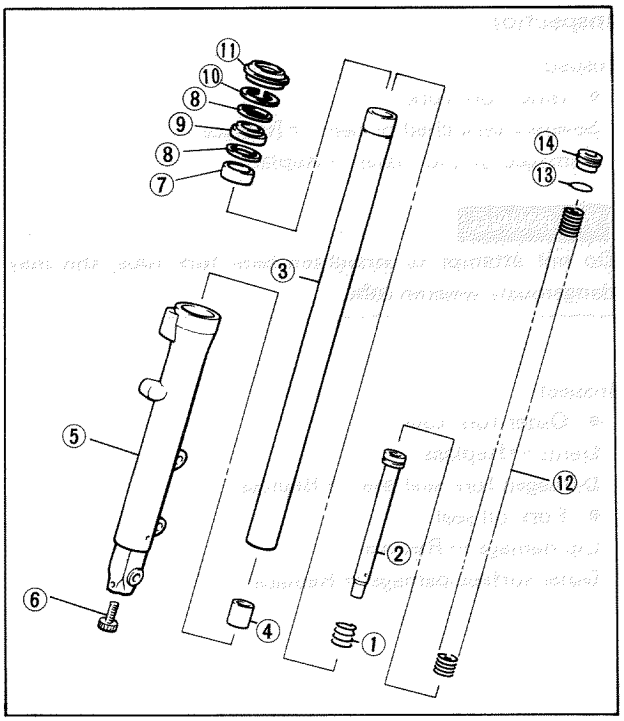
Inspect:
- Damper rod

Worn damper rod seal → Replace
Contamination → Wash and blow out all passages



Inspect:
- O-ring ① on cap bolt

Damage → Replace



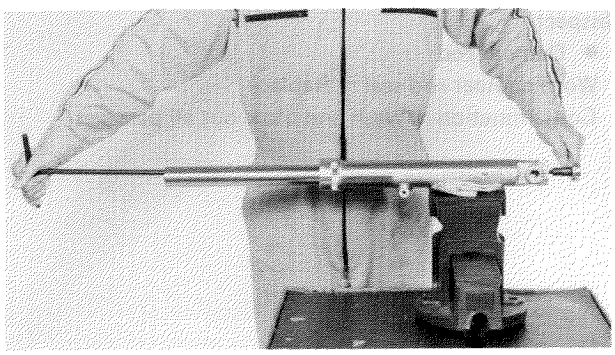
Assembly

Be sure all components are clean before assembly

①	Damper rod spring
②	Damper rod
③	Inner fork tube
④	Taper spindle
⑤	Outer fork tube
⑥	Damper rod securing bolt
⑦	Guide bush
⑧	Washer
⑨	Fork oil sael
⑩	Circlip
⑪	Dust seal
⑫	Fork spring
⑬	O-ring
⑭	Cap bolt

Install:
- Damper rod spring (→ Damper rod)
- Damper rod (→ inner fork tube)

Allow rod to slide slowly down tube until it protrudes from bottom.
- Taper spindle (→ end of damper rod)
- Inner fork tube (→ outer fork tube)

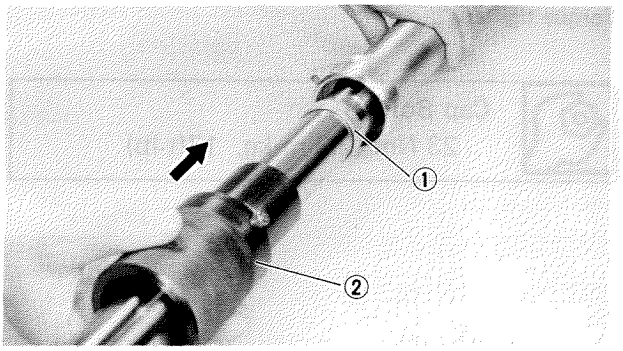


Apply Loctite ® stud N'Bearing Mount (red) to damper rod securing bolt.

Install:
- Damper rod securing bolt (→ outer fork tube)

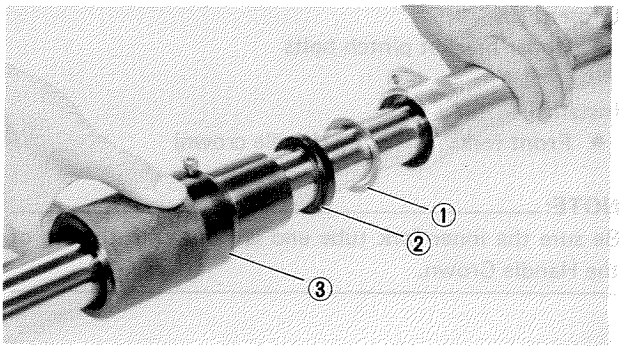
Hold damper rod with Damper Rod Holder (90890-01365)

Damper Rod Securing Bolt:
23 Nm (2.3 m·kg, 17 ft-lb)



Install:
- Guide bush ①

Press guide bush into the outer fork tube with Fork Seal Driver ② (90890-01367)



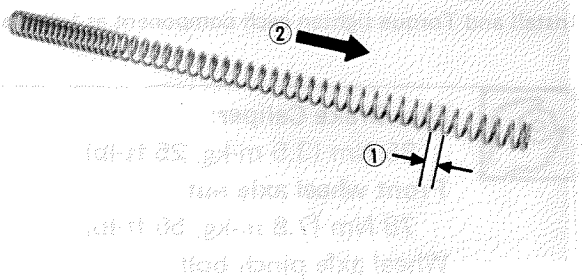
Install:
- Washer ①
- Fork oil seal ②

Press fork oil seal into the outer fork tube with Fork Seal Driver ③ (90890-01367)

Install:
- Washer
- Circlip
- Dust seal

Pour specified amount of oil into inner tube

Capacity:
286 ± 4 cm³ (10.1 ± 0.14 Imp oz, 9.67 ± 0.14 UA oz)
Type:
SAE 10W30 Motor Oil

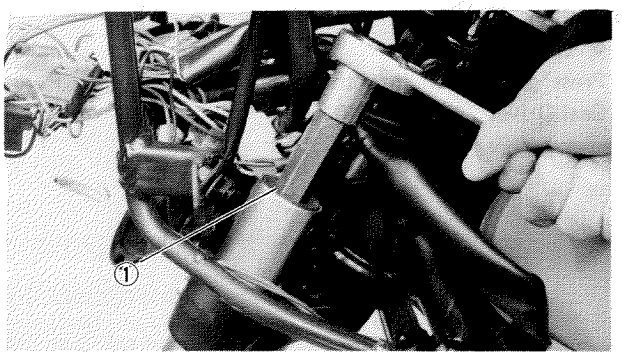


Install:
- Fork spring

NOTE:
When installing the fork spring, the greater pitch ① should be at the bottom ② .

Install:
- Cap bolt
- Front fork (→Under bracket)

Tighten:
- Under bracket pintch bolts



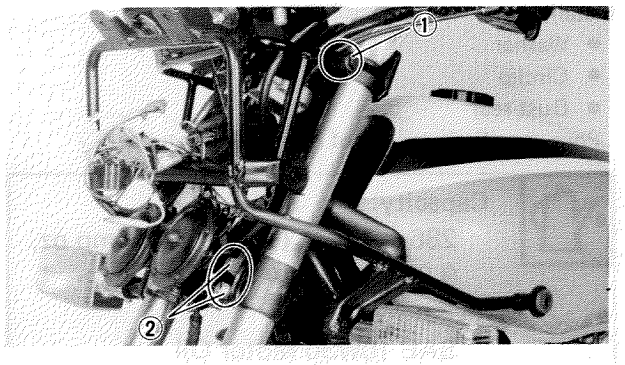
Torque tighten:

Cap Bolt ① :
23 Nm (2.3 m·kg, 17ft·lb)

Loosen:
- Under bracket pintch bolts

Install:
- Front fork (→Handle crown)

NOTE:
Be sure the inner fork tube end is flush with the top of the Handle Crown.



Torque tighten:

Handle crown pintch bolt ① :
20 Nm (2.0 m·kg, 14 ft·lb)
Under bracket pintch bolt ② :
23 Nm (2.3 m·kg, 17 ft·lb)

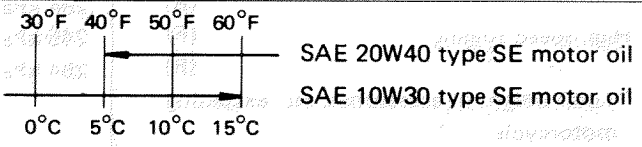
Continue assembly in reverse of Removal and Disassembly order.

Install and Torque tighten each component as follows:

Disc Brake Caliper:
35 Nm (3.5 m·kg, 25 ft·lb)
Front wheel axle nut:
78 Nm (7.8 m·kg, 50 ft·lb)
Wheel axle pinch bolt:
23 Nm (2.3 m·kg, 17 ft·lb)

SPECIFICATIONS

I. GENERAL SPECIFICATIONS

Model code number	45T
Frame starting number	45T-000101
Engine starting number	45T-000101
Dimensions:	
Overall length	2,190 mm (86.2 in)
Overall width	735 mm (28.9 in)
Overall height	1,245 mm (49.0 in)
Seat height	790 mm (31.1 in)
Wheelbase	1,480 mm (58.3 in)
Minimum ground clearance	150 mm (5.9 in)
Weight:	
With oil and full fuel tank	242 kg (534 lb)
Minimum turning radius	2,900 mm (114.2 in)
Engine:	
Engine type	D.O.H.C., air-cooled, gasoline
Cylinder arrangement	Forward-incline, parallel 4-cylinder
Displacement	749 cm^3 (45.69 cu.in)
Bore x Stroke	65.0 x 56.5 mm (2.559 x 2.224 in)
Compression ratio	9.8 : 1
Compression pressure	785 ~ 1,177 kPa (8.0 ~ 12.0 kg/cm^2, 114 ~ 171 psi)
Starting system	Electric
Lubrication system	Pressure lubricated, wet sump
Engine oil type or grade	
Engine oil capacity:	
Periodic oil change	2.5 L (2.2 Imp qt, 2.6 US qt)
Oil filter replacement	2.8 L (2.5 Imp qt, 3.0 US qt)
Total amount	3.6 L (3.2 Imp qt, 3.8 US qt)
Final gear oil:	
Grade or type	SAE 80 API "GL-4" Hypoid gear oil
Final gear case oil amount	0.2 L (0.18 Imp qt, 0.21 US qt)
Air filter	Dry type element
Fuel:	
Type	Regular gasoline
Tank capacity	22.0 L (4.84 Imp gal, 5.81 US gal)
Reserve amount	5.0 L (1.10 Imp gal, 1.32 US gal)
Carburetor:	
Type	HSC33 x 4
Manufacturer	HITACHI
Spark plug:	
Type	BPR8ES
Manufacturer	NGK
Gap	0.7 ~ 0.8 mm (0.028 ~ 0.032 in)
Clutch type	Wet, multiple disc

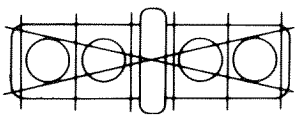
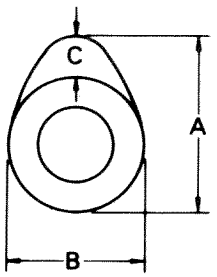
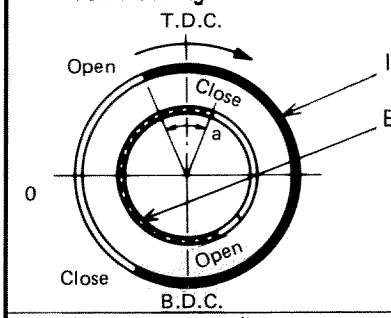
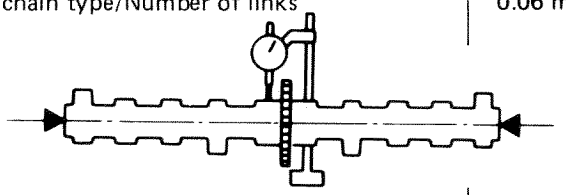
GENERAL SPECIFICATIONS

Transmission:		
Primary reduction system		Spur gear
Primary reduction ratio		97/58 (1.672)
Secondary reduction system		Shaft drive
Secondary reduction		
Transmission output	Type/teeth/ratio	Spur gear, 48/37 (1.297)
Middle gear case	Type/teeth/ratio	Bevel gear, 19/18 (1.055)
Final gear case	Type/teeth/ratio	Bevel gear, 32/11 (2.909)
Transmission type		Constant mesh, 5-speed drum shifter
Operation		Left foot operation
Gear ratio:	1st	35/16 (2.187)
	2nd	30/20 (1.500)
	3rd	30/26 (1.153)
	4th	28/30 (0.933)
	5th	26/32 (0.812)
Chassis:		
Frame type		Tubular steel double cradle
Caster angle		27°
Trail		114 mm (4.49 in)
Tire:		
Tire type		Tubeless
Tire size (F)		100/90 V 18
Tire size (R)		120/90 V 18
Manufacturer		BRIDGESTONE, PIRELLI
Tire pressure:		(Cold pressure)
Up to 90 kg (198 lb) load*	(F)	226 kPa (2.3 kg/cm^2, 32 psi)
	(R)	245 kPa (2.5 kg/cm^2, 36 psi)
90 kg (198 lb) Maximum load*	(F)	245 kPa (2.5 kg/cm^2, 36 psi)
	(R)	284 kPa (2.9 kg/cm^2, 42 psi)
High-speed ringing	(F)	245 kPa (2.5 kg/cm^2, 36 psi)
	(R)	284 kPa (2.9 kg/cm^2, 42 psi)
*Total weight of accessories, etc. excpeting motorcycle		
Brake:		
Front brake type		Dual hydraulic disc
Operation		Right hand
Rear brake type		Single hydraulic disc
Operation		Right foot
Suspension:		
Front suspension		Telescopic fork
Rear suspension		Swingarm
Shock absorber:		
Front shock absorber		Oil damper, and coil spring
Rear shock absorber		Oil damper, and coil spring
Wheel travel:		
Front wheel travel		150 mm (5.9 in)
Rear wheel travel		100 mm (3.9 in)
Electrical:		
Ignition system		Battery ignition (Full transistor ignition)
Generator system		A.C. generator
Battery type or model		YB14L
Battery capacity		12V 14AH
Headlight type:		Bulb type (HALOGEN)

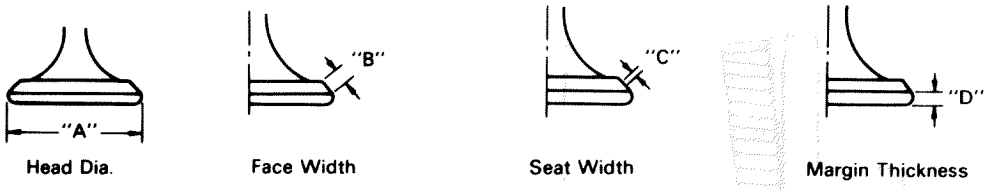
Bulb wattage x Pcs:	
Headlight	60W/55W x 1
Flasher light	27W x 4
Tail/Brake light	8W/27W x 2
Meter light	3.4W x 6
Auxiliary light	4W x 1
Indicator light wattage x Pcs:	
NEUTRAL	3.4W x 1
HIGH BEAM	3.4W x 1
TURN	3.4W x 2
OIL	3.4W x 1

II. MAINTENANCE SPECIFICATIONS

A. ENGINE

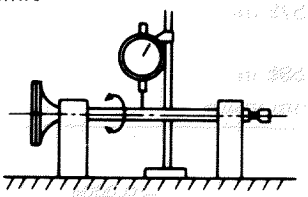
Cylinder head:	
Volume	24.5 ± 0.4 cm³ (1.49 ± 0.0244 cu.in)
Warp limit 	< 0.03 mm (0.0012 in) > * Lines indicate straightedge measurement
Cylinder:	
Material	Aluminum alloy with pressed-in sleeve
Bore size	65 mm (2.56 in)
Taper limit	< 0.05 mm (0.0020 in) >
Out-of-round limit	< 0.01 mm (0.0004 in) >
Camshaft:	
Drive method	Chain drive (Center)
Cam cap inside diameter	$25^{+0.021}_{0}$ mm ($0.984^{+0.008}_{0}$ in)
Camshaft outside diameter	$25^{-0.020}_{-0.033}$ mm ($0.984^{-0.0008}_{-0.0013}$ in)
Shaft-to-cap clearance	0.020 ~ 0.054 mm (0.0008 ~ 0.0021 in)
Cam dimensions 	Intake "A": 36.8 mm (1.449 in) Intake "B": 28.1 mm (1.106 in) Intake "C": 8.8 mm (0.346 in) Exhaust "A": 36.3 mm (1.429 in) Exhaust "B": 28.06 mm (1.105 in) Exhaust "C": 8.3 mm (0.327 in)
Valve timing 	Open: B.T.D.C. 38° Close: A.B.D.C. 58° Open: B.B.D.C. 56° Close: A.T.D.C. 36° Overlap: a = 74°
Cam chain type/Number of links 	0.06 mm (0.0024 in)
Cam chain type/Number of links	BUSH-CHAIN/120
Cam chain adjustment method	Automatic

Valve, Valve seat, Valve guide:		
Valve clearance (Cold)	IN.	0.11 ~ 0.15 mm (0.0043 ~ 0.0059 in)
	EX.	0.16 ~ 0.20 mm (0.0063 ~ 0.0079 in)
Valve dimensions		



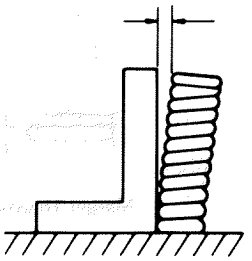
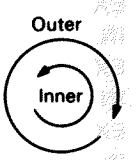
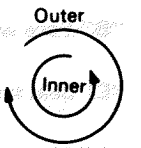
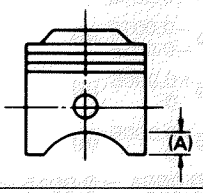
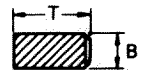
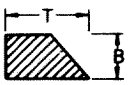
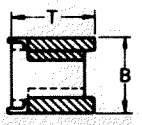
Head Dia. | Face Width | Seat Width | Margin Thickness

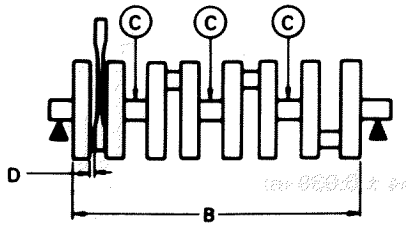
"A" Head dia.	IN.	34 ± 0.1 mm (1.34 ± 0.004 in)
	EX.	28 ± 0.1 mm (1.10 ± 0.004 in)
"B" Face width	IN.	2.3 mm (0.091 in)
	EX.	2.3 mm (0.091 in)
"C" Seat limit width	IN.	1 ± 0.1 mm (0.039 ± 0.004 in)
	EX.	1 ± 0.1 mm (0.039 ± 0.004 in)
"D" Margin thickness limit	IN.	1.2 ± 0.2 mm (0.0472 ± 0.008 in)
	EX.	1.0 ± 0.2 mm (0.0394 ± 0.008 in)
Stem outside diameter	IN.	$7\ ^{-0.010}_{-0.025}$ mm ($0.2756\ ^{-0.0004}_{-0.0010}$ in)
	EX.	$7\ ^{-0.025}_{-0.040}$ mm ($0.2756\ ^{-0.0010}_{-0.0016}$ in)
Guide inside diameter	IN.	$7\ ^{+0.012}_{0}$ mm ($0.2756\ ^{+0.0005}_{0}$ in)
	EX.	$7\ ^{+0.012}_{0}$ mm ($0.2756\ ^{+0.0005}_{0}$ in)
Stem-to-guide clearance	IN.	0.010 ~ 0.037 mm (0.0004 ~ 0.0015 in)
	EX.	0.025 ~ 0.052 mm (0.0010 ~ 0.0020 in)
Stem runout limit		< 0.03 mm (0.0012 in) >



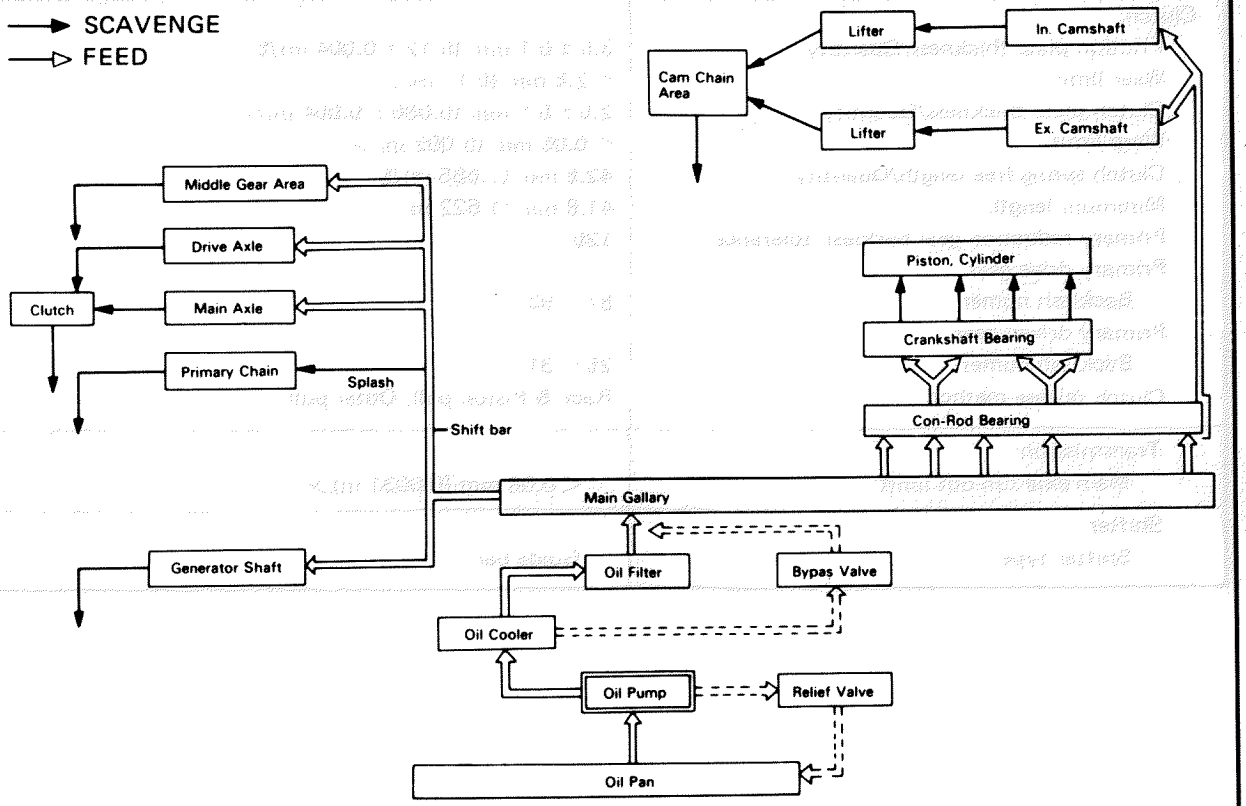
Valve seat width standard		0.9 ~ 1.1 mm (0.035 ~ 0.043 in)
< Limit >		< 2.0 mm (0.080 in) >

Valve spring:			
Free length			
Inner spring	IN.	35.9 mm (1.413 in)	
	EX.	35.9 mm (1.413 in)	
Outer spring	IN.	39.5 mm (1.555 in)	
	EX.	39.5 mm (1.555 in)	
Spring rate			
Inner spring	IN.	K_1 : 2.36 kg/mm (132 lb/in)	K_2 : 1.84 kg/mm (103 lb/in)
	EX.	K_1 : 2.36 kg/mm (132 lb/in)	K_2 : 1.84 kg/mm (103 lb/in)
Outer spring	IN.	K_1 : 4.58 kg/mm (256 lb/in)	K_2 : 3.464 kg/mm (194 lb/in)
	EX.	K_1 : 4.58 kg/mm (256 lb/in)	K_2 : 3.464 kg/mm (194 lb/in)
Compression length (Valve closed)			
Inner spring	IN.	31.0 mm (1.220 in)	
	EX.	31.0 mm (1.220 in)	
Outer spring	IN.	34.0 mm (1.339 in)	
	EX.	34.0 mm (1.339 in)	
Compression force (Valve closed)			
Inner spring	IN.	8.1 ~ 9.9 kg (17.9 ~ 21.8 lb)	
	EX.	8.1 ~ 9.9 kg (17.9 ~ 21.8 lb)	
Outer spring	IN.	17.6 ~ 20.6 kg (38.8 ~ 45.4 lb)	
	EX.	17.6 ~ 20.6 kg (38.8 ~ 45.4 lb)	

Tilt limit		
Inner spring	IN. & EX.	2.5°/1.7 mm (0.067 in)
Outer spring	IN. & EX.	2.5°/1.7 mm (0.067 in)
		
Direction of winding (Top view)		Intake:  Exhaust: 
Piston:		
Piston size/Measuring point (A)		65.0 mm (2.559 in)/7.8 mm (0.307 in) (From bottom line of piston skirt)
		
Clearance between piston & Cylinder		0.03 ~ 0.05 mm (0.0012 ~ 0.0020 in)
Oversize	1st	–
	2nd	65.50 mm (2.579 in)
	3rd	–
	4th	66.00 mm (2.598 in)
Piston pin hole off-set		0.5 mm (0.02 in) inside
Piston ring:		
Sectional sketch		
	Top ring	$B = 1.2\ ^{-0.01}_{-0.03}$ mm ($0.0472\ ^{-0.0004}_{-0.0012}$ in) T = 2.7 ± 0.1 mm (0.106 ± 0.004 in)
	2nd ring	$B = 1.2\ ^{-0.01}_{-0.03}$ mm ($0.0472\ ^{-0.0004}_{-0.0012}$ in) T = 2.7 ± 0.1 mm (0.106 ± 0.004 in)
	Oil ring	B = 2.5 mm (0.098 in) T = 2.8 ± 0.15 mm (0.110 ± 0.0059 in)
End gap (Installed)	Top ring	0.15 ~ 0.35 mm (0.0059 ~ 0.0138 in)
Limit		< 1.0 mm (0.039 in) >
	2nd ring	0.15 ~ 0.35 mm (0.0059 ~ 0.0138 in) < 1.0 mm (0.039 in) >
	Oil ring	0.3 ~ 0.9 mm (0.012 ~ 0.035 in) < 1.5 mm (0.059 in) >
Side clearance		
Limit	Top ring	0.03 ~ 0.07 mm (0.0012 ~ 0.0028 in) < 0.15 mm (0.0059 in) >
	2nd ring	0.02 ~ 0.06 mm (0.0008 ~ 0.0024 in) < 0.15 mm (0.0059 in) >

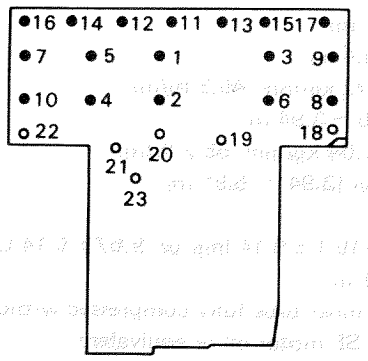
Plating or coating — Top ring	Chrome plated, Ferox coating
2nd ring	Chrome plated, Ferox coating
Oil ring	Chrome plated, Ferox coating
Connecting rod:	
Oil clearance	0.016 ~ 0.040 mm (0.0006 ~ 0.0016 in)
Color code	1. Blue, 2. Black, 3. Brown, 4. Green
Crankshaft:	
	
Assembly width "B"	341.4 ± 0.6 mm (13.44 ± 0.024 in)
Deflection limit "C"	< 0.03 mm (0.0012 in) >
Big end side clearance "D"	0.16 ~ 0.26 mm (0.0063 ~ 0.00102 in)
Journal oil clearance	0.020 ~ 0.044 mm (0.0008 ~ 0.0017 in)
Color code — corresponding size Blue	$1.5\ ^{+0.006}_{+0.002}$ mm ($0.0591\ ^{+0.00024}_{+0.00008}$ in)
Black	$1.5\ ^{+0.002}_{-0.002}$ mm ($0.0591\ ^{+0.00008}_{-0.00008}$ in)
Brown	$1.5\ ^{-0.002}_{-0.006}$ mm ($0.0591\ ^{-0.00008}_{-0.00024}$ in)
Green	$1.5\ ^{-0.006}_{-0.010}$ mm ($0.0591\ ^{-0.00024}_{-0.00039}$ in)
Yellow	$1.5\ ^{-0.010}_{-0.014}$ mm ($0.0591\ ^{-0.00039}_{-0.00055}$ in)
Clutch:	
Friction plate thickness/Quantity	3.0 ± 0.1 mm (0.12 ± 0.004 in)/8
Wear limit	< 2.8 mm (0.11 in) >
Clutch plate thickness/Quantity	2.0 ± 0.1 mm (0.080 ± 0.004 in)/7
Warp limit	< 0.05 mm (0.002 in) >
Clutch spring free length/Quantity	42.8 mm (1.685 in)/5
Minimum length	41.8 mm (1.622 in)
Primary reduction gear backlash tolerance	120
Primary drive gear	
Backlash numer	87 ~ 93
Primary driven gear	
Backlash numer	25 ~ 31
Clutch release method	Rack & Piston pull, Outer pull
Transmission:	
Main axle run-out limit	< 0.08 mm (0.0031 in) >
Shifter:	
Shifter type	Guide bar

Carburetor:		
Type/manufacturer/quantity		HSC33-11/HITACHI/4
I.D. mark		41Y00
Throttle Valve Size		12.5°
Main jet	(M.J.)	# 106
Main air jet	(M.A.J.)	# 70
Jet needle	(J.N.)	Y-18
Pilot jet	(P.J.)	# 40
Pilot air jet	(P.A.J.)	# 225
Pilot screw (turns out)	(P.S.)	Pre-set
Pilot outlet size	(P.O.)	ϕ 0.9
Starter jet	(G.S.)	# 43
Valve seat size	(V.S.)	ϕ 2.0
Fuel level	(F.L.)	1.0 ± 1 mm (0.0394 ± 0.039 in)
Engine idling speed		1,100 ± 50 r/min
Vacuum pressure at idling speed		180 mmHg (7.09 inHg)
Lubrication system:		
Oil filter type		Paper filter
Oil pump type		Trochoid pump
Tip clearance		0.03 ~ 0.09 mm (0.0012 ~ 0.0035 in)
Side clearance		0.03 ~ 0.08 mm (0.0012 ~ 0.0031 in)
Bypath valve setting pressure		98 ± 20 kPa (1.0 ± 0.2 kg/cm^2, 14.2 ± 2.8 psi)
Relief valve operating pressure		490 ± 50 kPa (5.0 ± 0.5 kg/cm^2, 71.1 ± 7.1 psi)
Lubrication diagram		

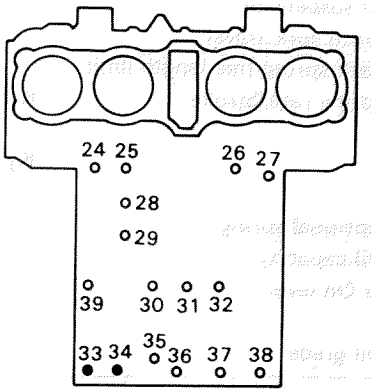


Middle gear backlash	0.1 ~ 0.2 mm (0.004 ~ 0.008 in)
Final gear backlash	0.1 ~ 0.2 mm (0.004 ~ 0.008 in)
Crankcase tightening sequence	

LOWER CASE

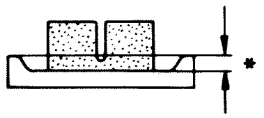


UPPER CASE



Tightening Torque:
● . . . .8 mm bolt: 24 Nm (2.4 m•kg, 17 ft•lb)
○ . . . .6 mm bolt: 12 Nm (1.2 m•kg, 8.7 ft•lb)

B. CHASSIS

Steering system:		
Steering bearing type		Taper roller bearing KOYO 32005 KOYO 32006
Lock-to-lock angle		35°
Front suspension:		
Front fork travel		150 mm (5.91 in)
Fork spring free length limit		517.5 mm (20.4 in)
Spring rate/Stroke	K_1	7.2 N/mm (0.72 kg/mm, 40.3 lb/in)/ 0~ 100 mm (0 ~ 3.94 in)
	K_2	10.4 N/mm (1.04 kg/mm, 58.2 lb/in)/ 100 ~ 150 mm (3.94 ~ 5.91 in)
Optional spring		No.
Oil capacity		286 ± 4 cm^3 (10.1 ± 0.14 Imp oz, 9.67 ± 0.14 US oz)
or Oil level		168 mm (6.61 in) (From top of inner tube fully compressed without spring)
Oil grade		SAE 5W type SE motor oil or equivalent
Rear suspension:		
Shock absorber travel		75 mm (2.95 in)
Spring free length		237 mm (9.33 in)
Spring rate/Stroke	K_1	21.5 N/mm (2.15 kg/mm, 120.4 lb/in)/ 0 ~ 36 mm (0 ~ 1.42 in)
	K_2	30.0 N/mm (3.0 kg/mm, 168.0 lb/in)/ 36 ~ 75 mm (1.42 ~ 2.95 in)
Optional spring		No.
Enclosed gas pressure		150 kPa (15 kg/cm^2, 213 psi)
Rear arm:		
Swingarm free play limit	End	1 mm (0.04 in)
	Side	1 mm (0.04 in)
Wheel:		
Front wheel type		Cast wheel
Rear wheel type		Cast wheel
Front rim size/Material		MT 2.15 x 18/Aluminum
Rear rim size/Material		MT 2.75 x 18/Aluminum
Rim runout limit	Vertical	< 1.0 mm (0.04 in) >
	Lateral	< 0.5 mm (0.02 in) >
Disc brake:		
Type	Front	Dual disc
	Rear	Single disc
Outside dia. x Thickness	Front	267 x 7.5 mm (10.5 x 0.30 in)
	Rear	267 x 8.5 mm (10.5 x 0.33 in)
Pad thickness	Front	5.5 mm (0.22 in)
	Rear	5.5 mm (0.22 in)
Limit*	Front	< 0.5 mm (0.020 in) >
	Rear	< 0.5 mm (0.020 in) >
Master cylinder inside dia.	Front	15.87 mm (0.62 in)
	Rear	12.7 mm (0.50 in)
Caliper cylinder inside dia.	Front	42.85 mm (1.69 in)
	Rear	42.85 mm (1.69 in)
Brake fluid type		DOT #3

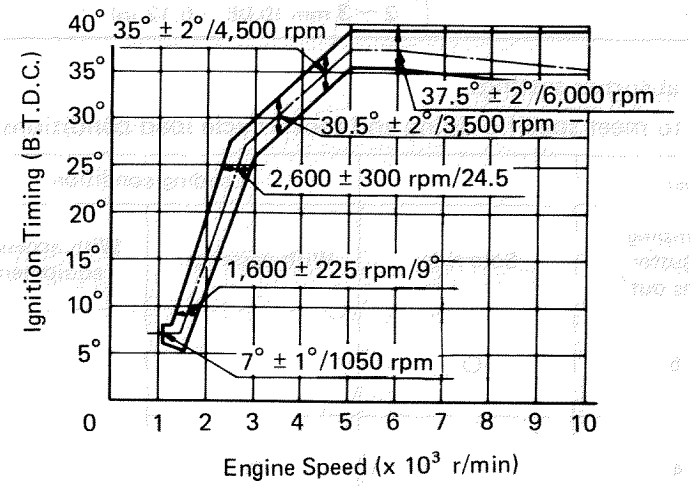
Brake lever & Brake pedal:	
Brake lever free play	5.0 ~ 8.0 mm (0.2 ~ 0.3 in)
Brake pedal free play	20 ~ 30 mm (0.8 ~ 1.2 in)
Brake pedal position	30 mm (1.2 in) (Vertical height below footrest top.)
Clutch lever free play	2 ~ 3 mm (0.08 ~ 0.12 in)

Recommended rear shock absorber settings.
Use this table as guidance to meet specific riding and motorcycle load conditions.

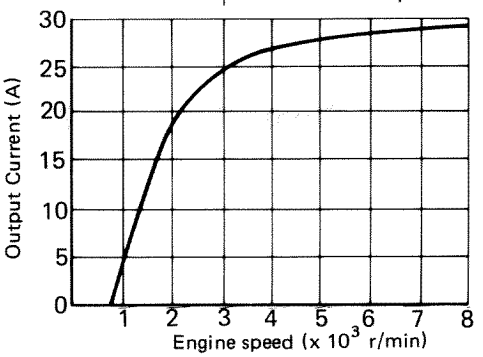
	Rear shock absorber		Loading condition			
	Spring seat	Damping adjuster turns out*	Solo rider	With passenger	With accessory equipments	With accessory equipments and passenger
1		6	○			
2		4		○		
3		4			○	
4		3				○

* Each numeral shows the damping value which can be set when the pointer is aligned with the individual slit in the spring seat. The damping adjuster may be further turned for a softer or harder damping; in each of the above settings, it is recommended that the damping be adjusted by one (1) or two (2) clicks on the softer side and one (1) click on the harder side.

Voltage	12V
Ignition system: Ignition timing (B.T.D.C.) Advanced timing (B.T.D.C.)	 7°/1,050 r/min 37.5°/6,000 r/min



Advancer type	Electrical type
T.C.I.: Pick up coil resistance (Color) T.C.I. unit-model/Manufacturer	 120Ω ± 20% at 20°C (68°F) (O – B, Gy – B) TID14-21/HITACHI
Ignition coil: Model/Manufacturer Minimum spark gap Primary winding resistance Secondary winding resistance	 CM12-20/HITACHI 6 mm (0.24 in) or more at 500 r/min (19 kV/ 100 r/min at 6V, 16 kV/9,500 r/min at 14V) 2.7Ω ± 10% at 20°C (68°F) 13.2 kΩ ± 20% at 20°C (68°F)
Spark plug cap Type Resistance	 Resin type 5.5KΩ
Charging system: Type Model/Manufacturer	 A.C. generator LD119-08/HITACHI
Output	14V 19A at 5,000 r/min



Field (inner) coil resistance (Color)	4.0Ω ± 10% at 20°C (68°F) (G – Br)
Armature (Outer) coil resistance (Color)	0.46Ω ± 10% at 20°C (68°F) (W – W)
Brush – Overall length	17 mm (0.67 in)
– Wear limit	10 mm (0.39 in)
– Spring pressure	190 ~ 360 g (6.7 ~ 12.7 oz)
Voltage regulator: Type Model/Manufacturer No load regulated voltage	 Field control type SH233-12/SHINDENGEN 14.2 ~ 14.8V

Rectifier:		
Model/Manufacturer	SH233-12/SHINDENGEN	
Capacity	35A	
Withstand voltage	320V	
Battery:		
Capacity	12V 14AH	
Specific gravity	1,280	
Electric starter system:	Constant mesh type	
Starter motor – Model/Manufacturer	ADB4D2/NIPPONDENSO	
– Output	0.6 kW	
Armature coil resistance	0.014Ω ± 6% at 20°C (68°F)	
Brush-overall length	12 mm (0.47 in)	
Limit	< 8.5 mm (0.33 in) >	
Spring pressure	800 ± 150 g (28.22 ± 5.29 oz)	
Commutator dia.	28 mm (1.1 in)	
Wear limit	< 27 mm (1.06 in) >	
Mica undercut	0.6 ± 0.2 mm (0.024 ± 0.008 in)	
Starter switch manufacturer	HONDA LOCK	
Amperage rating	150A	
Coil winding resistance	3.4Ω at 20°C (68°F)	
Horn:		
Type/Quantity	Plane type/2	
Model/Manufacturer	CF-12/NIKKO	
Maximum-amperage	2.5A	
Flasher relay:		For Germamy
Type	Condenser type	Tramsistor type
Model/Manufacturer	FU249CD/NIPPONDENSO	FJ245ED/NIPPONDENSO
Self cancelling device	YES	NO
Flasher frequency	85 ± 10 cycle/min	←
Wattage	21W x 2 + 3.4W	←
Self-cancelling unit		
Model/Manufacturer	1A0/MATSUSHITA	
Oil level switch:		
Manufacturer	NIPPONDENSO	
Fuel gauge:		
Manufacturer	NIPPON SEIKI	
Sender unit resistance – Full	7Ω ± 70% at 20°C (68°F)	
– Empty	95Ω ± 80% at 20°C (68°F)	
Starting circuit cut off relay:		
Model/Manufacturer	12R/OMRON	
Coil winding resistance	75Ω ± 10% at 20°C (68°F)	
Circuit breaker:		
Type	Fuse	
Amperage for individual circuit:		
Main	30A/1	
Headlight	20A/1	
Signal	10A/1	
Ignition	10A/1	
Reserve	30A/1 and 20A/1	

CABLE ROUTING

1 Master Cylinder
2 Brake hose
3 Brake pipe
4 Joint L/H
5 Joint R/H
6 Union bolt
7 Brake caliper
9 Motorcycel center