XS650H
1981 SERVICE DATA

This bulletin replaces M80-035.
Please remove and destroy bulletin M80-035. A Denotes a change from the original bulletin.

MODEL - IBM I.D. NUMBER	XS650H 4N9
Initial Engine Number / Frame Number	4N9-000101 / 4N9-000101
Basic Color(s)	Indigo Blue / New Ruby Red
Fuel Type / Fuel Tank Capacity / Reserve Capacity	Regular / 11.5 Lit. (3.0 Gal.) / 2.3 Lit. (0.5 Gal.)
Dry Vehicle Weight	206 kg (452 lbs.)
ENGINE TYPE	4-Stroke, SOHC, Air-Cooled
Bore / Stroke / Number Cylinders / Displacement (cc)	75mm / 74mm / 2 / 654cc
Compression Ratio / Compression Pressure Min~Max	9.7:1 / 9.5 ~ 11.5 kg/cm²
Piston Skirt Clearance New / Max	0.050 ~ 0.065mm / 0.1mm
Ring End Gap Top / 2nd / 3rd	0.2 ~ 0.4mm / 0.2 ~ 0.4mm / 0.3 ~ 0.9mm
Valve Clearance (Cold) Intake / Exhaust	0.06mm / 0.15mm
Oil Pressure Hot / rpm	Ø
Oiling System	Wet Sump
Capacity: Dry	2500cc
Oil and Filter Change	2000cc
Oil Change	2000cc
Lubricant: Temp. above 5°C (40°F)	Yamalube 4* or SAE 20W40 SE
Below 15°C (60°F)	Yamalube 4* or SAE 20W40 SE
AUTOLUBE - Min. Stroke / Color Code	Ø
Minimum Output @ 200 Cycles	Ø
Maximum Output @ 200 Cycles	Ø
CARBURETOR - Mfr. / Type / I.D. Number	Mikuni / BS34 / 3G1-00
Main Jet / Pilot Jet	132.5 / 42.5
Needle Jet / Jet Needle-Clip Position	Y-0 / 5HX12-Fixed
Slide Cutaway or Throttle Valve	135
Float Level	27.3 ± 0.5mm
Idle rpm	1200
Max CO* / Max HC* / Set CO ▲	5.0 % / 500 ppm / 2.0 % (All Settings @ Idle)
SUSPENSION	
Front Forks: Oil Type / Level / Qty	10 Wt. Fork Oil* / Ø / 169cc
Gas Pressure	Ø
Spring Length Std.	482mm
Monoshock: Oil Type / Qty	Ø
Gas Pressure	Ø
Minimum Brake Lining Thickness	Front: 6.0mm Rear: 2.0mm
Tire Size (Nominal Pressure)	F:3.50S19(1.8kg/cm²/22 psi) R:4.10/90-18 57S(2.0kg/cm²/28 psi)
TRANSMISSION - Oil Type / Qty Chg / Qty Reassemble	See ENGINE Lubricant
Primary Drive Type / Teeth / Ratio	Spur Gear / 72-27 / 2.666
Secondary Drive Type / Teeth / Chain	Chain / 34-17 / DID530HDS-104L
Clutch Friction Plate Thickness Std ~ Min.	3.0 ~ 2.7mm
Clutch Spring Length Std ~ Min.	34.6 ~ 33.6mm
Middle Gear Case Capacity	Ø
Final Gear Case Capacity	Ø
Gear Case Lubricant: Temp above 5°C (40°F)	Ø
Temp below 15°C (60°F)	Ø
All Weather Conditions	Ø

CHARGING SYSTEM	AC Generator / 3 Phase / Full Wave
Battery: Model / Specific Gravity / Charge Rate	Yuasa YB14L-A2 (12V14AH) / 1.28 / 1.4A
Maximum Output	14V 16A @ 5000 rpm
TROUBLESHOOTING	
Field Coil Color Code / Ω	Rotor: Grn ~ / 5.3 Ω ± 10% Stator: Wht ~ Wht / 0.46 Ω ± 10%
Charge Coil Color Code / Ω	Ø
IGNITION SYSTEM	Transistor Controlled Ignition
Ignition Timing	15° Mark
	Std: 15° @ 1200 rpm Adv: 40° @ Approx. 3200 rpm
Spark Plug Type	NGK BP7ES or Champion N7Y
Spark Plug Gap / Torque / Cap Ω	0.7 ~ 0.8mm / 2.0 m-kg / 10K Ω
Point Gap / Condenser Capacitance	Ø / Ø
TROUBLESHOOTING	
Ignition Coil Test Gap/Primary Ω/Secondary Ω	6.0mm / 2.5 Ω ± 10% / 11K Ω ± 20%
Pulser Coil or Pickup Coil Color Code / Ω	Org ~ Blk, Gry ~ Blk / 700 Ω ± 20%
Source Coil Color Code / Ω	Ø
LIGHTING SYSTEM	
Headlight / Taillight / Signal Rating	12V50-40W / 12V27-8W / 12V27W
TROUBLESHOOTING	
Lighting Coil Color Code / Ω	Ø
TORQUE VALUES	
Front Axle Nut	14 x 1.5: 10.8 m-kg
Front Axle Holder Nut	8 x 1.25: 1.4 m-kg
Rear Axle Nut	18 x 1.5: 15.0 m-kg
Rear Axle Pinch Bolt	Ø
Clutch Nut	18 x 1.0: 8.0 m-kg
Drain Plug	30 x 1.5: 4.2 m-kg
Cylinder Head Cover	8 x 1.25: 2.1 m-kg
Cylinder Head:	6 x 1.0: 0.9 m-kg
	10 x 1.25: 3.7 m-kg
Engine Mounting Bolts: Engine, Upper	8 x 1.25: 1.8 m-kg 10 x 1.25: 3.0 m-kg
Engine, Front	10 x 1.25: 4.6 m-kg
Engine, Rear	10 x 1.25: 4.0 m-kg
Rear, Lower	10 x 1.25: 4.6 m-kg
Engine, Lower	10 x 1.25: 9.0 m-kg

Ø = Does Not Apply To This Model

N/A = Information Not Available

*Available From Yamaha Parts ... Motors Inc.