

TROUBLESHOOTING

NOTE:

The following troubleshooting does not cover all the possible causes of trouble. It should be helpful, however, as a guide to troubleshooting. Refer to the relative procedure in this manual for inspection, adjustment and replacement of parts.

STARTING FAILURE/HARD STARTING

FUEL SYSTEM

Fuel tank

- Empty
- Clogged fuel filter
- Clogged fuel strainer
- Clogged fuel breather hose
- Deteriorated or contaminated fuel

Fuel cock

- Clogged fuel hose

Carburetor

- Deteriorated or contaminated fuel
- Clogged pilot jet
- Clogged pilot air passage
- Sucked-in air
- Deformed float
- Worn needle valve
- Improperly sealed valve seat
- Improperly adjusted fuel level
- Improperly set pilot jet
- Clogged starter jet
- Starter plunger malfunction

Air filter

- Clogged air filter element

ELECTRICAL SYSTEM

Spark plug

- Improper plug gap
- Worn electrodes
- Wire between terminals broken
- Improper heat range
- Faulty spark plug cap

Ignition coil

- Broken or shorted primary/secondary
- Faulty spark plug lead
- Broken body

CDI system

- Faulty CDI unit
- Faulty pickup coil
- Faulty charging/rotor rotation direction coil
- Broken woodruff key

Switches and wiring

- Faulty main switch
- Faulty engine stop switch
- Broken or shorted wiring
- Faulty gear position switch
- Faulty start switch
- Faulty rear brake switch

Starter motor

- Faulty starter motor
- Faulty starter relay
- Faulty starter clutch

COMPRESSION SYSTEM

Cylinder and cylinder head

- Loose spark plug
- Loose cylinder head or cylinder
- Broken cylinder head gasket
- Broken cylinder gasket
- Worn, damaged or seized cylinder

Piston and piston rings

- Improperly installed piston ring
- Worn, fatigued or broken piston ring
- Seized piston ring
- Seized or damaged piston

Valve, camshaft and crankshaft

- Improperly sealed valve
- Improperly contacted valve and valve seat
- Improper valve timing
- Broken valve spring
- Seized camshaft
- Seized crankshaft

POOR IDLE SPEED PERFORMANCE

POOR IDLE SPEED PERFORMANCE

Carburetor

- Improperly returned starter plunger
- Loose pilot jet
- Clogged pilot jet
- Clogged pilot air jet
- Improperly adjusted idle speed
(Throttle stop screw)
- Improper throttle cable play
- Flooded carburetor

Electrical system

- Faulty spark plug
- Faulty CDI unit
- Faulty pickup coil
- Faulty charging/rotor rotation direction coil
- Faulty ignition coil

Valve train

- Improperly adjusted valve clearance

Air filter

- Clogged air filter element

POOR MEDIUM AND HIGH-SPEED PERFORMANCE

POOR MEDIUM AND HIGH-SPEED PERFORMANCE

Refer to "STARTING FAILURE/HARD STARTING" and "POOR IDLE SPEED PERFORMANCE-VALVE TRAIN".

Carburetor

- Improper jet needle clip position
- Improperly adjusted fuel level
- Clogged or loose main jet
- Deteriorated or contaminated fuel

Air filter

- Clogged air filter element

FAULTY DRIVE TRAIN

The following conditions may indicate damaged shaft drive components:

| Symptoms | Possible Causes |
|---|--|
| 1.A pronounced hesitation or “jerky” movement during acceleration, deceleration, or sustained speed. (This must not be confused with engine surging or transmission characteristics.) 2.A “rolling rumble” noticeable at low speed; a high-pitched whine; a “clunk” from a shaft drive component or area. 3.A locked-up condition of the shaft drive mechanism, no power transmitted from the engine to the front and/or rear wheels. | A.Bearing damage. B.Improper gear lash. C.Gear tooth damage. D.Broken drive shaft. E.Broken gear teeth. F.Seizure due to lack of lubrication. G.Small foreign objects lodged between the moving parts. |

NOTE:

Areas A, B, and C above may be extremely difficult to diagnose. The symptoms are quite subtle and difficult to distinguish from normal machine operating noise. If there is reason to believe these components are damaged, remove the components and inspect them.

FAULTY GEAR SHIFTING

HARD SHIFTING

Refer to "CLUTCH SLIPPING/Dragging-CLUTCH Dragging".

SHIFT LEVER DOES NOT MOVE

Shift shaft

- Bent shift shaft

Shift cam, shift fork

- Groove jammed with impurities
- Seized shift fork
- Bent shift fork guide bar

Transmission

- Seized transmission gear
- Jammed impurities
- Incorrectly assembled transmission

Shift guide

- Broken shift guide

JUMPS OUT OF GEAR

Shift shaft

- Improperly adjusted shift lever position
- Worn shift shaft lever
- Improperly returned stopper lever

Shift fork

- Worn shift fork

Shift cam

- Improper thrust play
- Worn shift cam groove

Transmission

- Worn gear dog

FAULTY CLUTCH PERFORMANCE

ENGINE OPERATES BUT MACHINE WILL NOT MOVE

V-belt

- Bent, damaged or worn V-belt
- V-belt slips

Primary pulley cam and primary pulley slider

- Damaged or worn primary pulley cam
- Damaged or worn primary pulley slider

Transmission

- Damaged transmission gears

CLUTCH SLIPPING

Clutch spring

- Damaged, loose or worn clutch shoe spring

Clutch shoe

- Damaged or worn clutch shoe

Primary sliding sheave

- Seized primary sliding sheave

POOR STARTING PERFORMANCE

V-belt

- V-belt slips
- Oil or grease on the V-belt

Primary sliding sheave

- Faulty operation
- Worn pin groove
- Worn pin

Clutch shoe

- Bent, damaged or worn clutch shoe

POOR SPEED PERFORMANCE

V-belt

- Oil or grease on the V-belt

Primary pulley weight

- Faulty operation
- Worn primary pulley weight

Primary fixed sheave

- Worn primary fixed sheave

Primary sliding sheave

- Worn primary sliding sheave

Secondary fixed sheave

- Worn secondary fixed sheave

Secondary sliding sheave

- Worn secondary sliding sheave

OVERHEATING

OVERHEATING

Ignition system

- Improper spark plug gap
- Improper spark plug heat range
- Faulty CDI unit

Fuel system

- Improper carburetor main jet (improper setting)
- Improper fuel level
- Clogged air filter element

Compression system

- Heavy carbon build-up

Engine oil

- Improper oil level
- Improper oil viscosity
- Inferior oil quality

Brake

- Brake drag

Oil cooling system

- Clogged or damaged oil cooler

FAULTY BRAKE

POOR BRAKING EFFECT

- Worn brake pads
- Worn disc
- Air in brake fluid
- Leaking brake fluid
- Faulty master cylinder kit cup
- Faulty caliper kit seal
- Loose union bolt
- Broken brake hose and pipe
- Oily or greasy disc/brake pads
- Improper brake fluid level

SHOCK ABSORBER MALFUNCTION

MALFUNCTION

- Bent or damaged damper rod
- Damaged oil seal lip
- Fatigued shock absorber spring

UNSTABLE HANDLING

UNSTABLE HANDLING

Handlebar

- Improperly installed or bent

Steering

- Incorrect toe-in
- Bent steering stem
- Improperly installed steering stem
- Damaged bearing or bearing race
- Bent tie-rods
- Deformed steering knuckles

Tires

- Uneven tire pressures on both sides
- Incorrect tire pressure
- Uneven tire wear

Wheels

- Deformed wheel
- Loose bearing
- Bent or loose wheel axle
- Excessive wheel runout

Frame

- Bent
- Damaged frame

LIGHTING SYSTEM

HEADLIGHT DARK

- Improper bulb
- Too many electric accessories
- Hard charging (broken charging coil and/or faulty rectifier/regulator)
- Incorrect connection
- Improperly grounded
- Poor contacts (main or light switch)
- Bulb life expired

BULB BURNT OUT

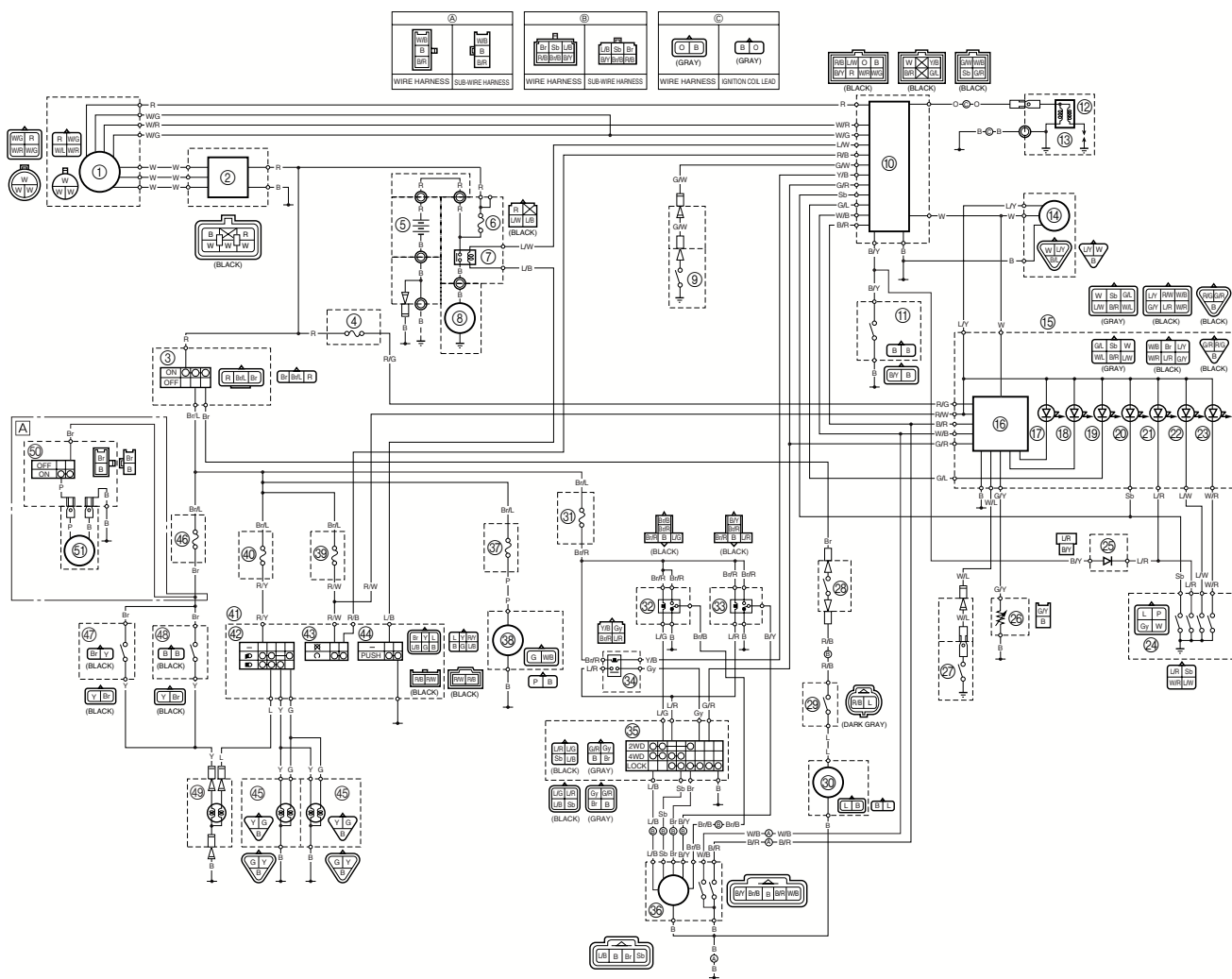
- Improper bulb
- Faulty battery
- Faulty rectifier/regulator
- Improperly grounded
- Faulty main and/or light switch
- Bulb life expired



YAMAHA MOTOR CO., LTD.
2500 SHINGAI IWATA SHIZUOKA JAPAN

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YFM660FP WIRING DIAGRAM



- ① AC magneto
- ② Rectifier/regulator
- ③ Main switch
- ④ Backup fuse
- ⑤ Battery
- ⑥ Main fuse
- ⑦ Starter relay
- ⑧ Starter motor
- ⑨ Reverse switch
- ⑩ CDI unit
- ⑪ Rear brake switch
- ⑫ Ignition coil
- ⑬ Spark plug
- ⑭ Speed sensor
- ⑮ Meter assembly
- ⑯ Multi-function meter
- ⑰ Differential gear lock indicator light
- ⑱ Coolant temperature indicator light
- ⑲ Reverse indicator light
- ⑳ Neutral indicator light
- ㉑ Park indicator light
- ㉒ High-range indicator light
- ㉓ Low-range indicator light
- ㉔ Gear position switch
- ㉕ Diode
- ㉖ Fuel sender
- ㉗ Thermo switch 1
- ㉘ Circuit breaker (fan motor)
- ㉙ Thermo switch 2
- ㉚ Fan motor
- ㉛ Four-wheel drive fuse
- ㉜ Four-wheel drive relay 1
- ㉝ Four-wheel drive relay 2
- ㉞ Four-wheel drive relay 3
- ㉟ On-command four-wheel drive switch and differential gear lock switch
- ㊱ Gear motor
- ㊲ Auxiliary DC jack fuse
- ㊳ Auxiliary DC jack
- ㊴ Ignition fuse
- ㊵ Headlight fuse
- ㊶ Handlebar switch (left)
- ㊷ Light switch
- ㊸ Engine stop switch
- ㊹ Start switch
- ㊺ Headlight
- ㊻ Signaling system fuse
- ㊼ Rear brake light switch
- ㊽ Front brake light switch
- ㊾ Tail/brake light
- ㊿ Horn switch
- ① Horn

[A] For Europe and Oceania

COLOR CODE

B Black
 Br Brown
 G Green
 L Blue
 O Orange
 P Pink
 R Red
 Sb Sky blue
 Gy Gray

W White
 Y Yellow
 B/R Black/Red
 B/Y Black/Yellow
 Br/B Brown/Black
 Br/L Brown/Blue
 Br/R Brown/Red
 G/L Green/Blue
 G/R Green/Red

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