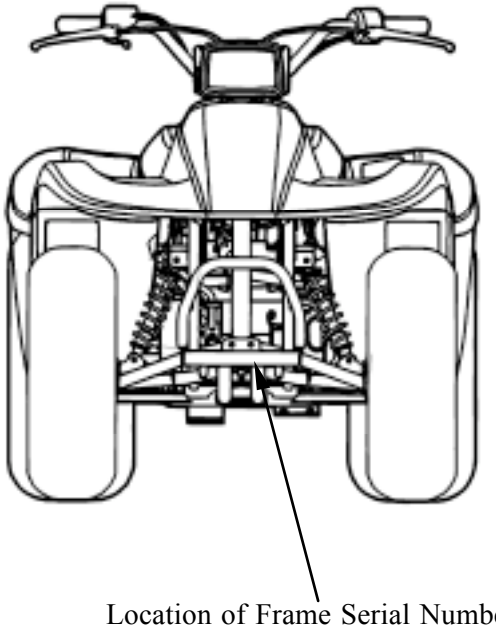
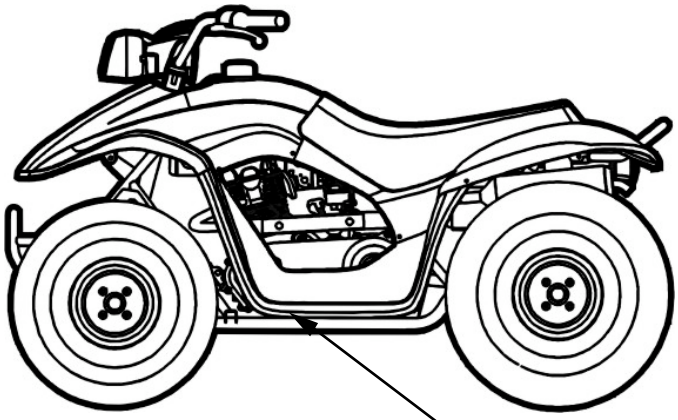
GENERAL INFORMATION

SERIAL NUMBER



Location of Frame Serial Number



Location of Engine Serial Number

SPECIFICATIONS

Name & Model No.			LA30AA, AB
Motorcycle Name & Type			MX'er
Overall length (mm)			1600
Overall width (mm)			980
Overall height (mm)			990
Wheel base (mm)			1120
Engine type			O.H.C.
Displacement (cc)			149.4
Fuel Used			92# nonleaded gasoline
Net weight (kg)		Front wheel	74
		Rear wheel	78
		Total	152
Gross weight(kg)		Front wheel	80
		Rear wheel	82
		Total	162
Tires		Front wheel	20*7-8
		Rear wheel	22*10-8
Ground clearance (mm)			130
Perform-ance	Breaking distance (m)(ANSI)		20.6 below
	Min. turning radius (m)		3
Engine	Starting system		Starting motor
	Type		Gasoline, 4-stroke
	Cylinder arrangement		Single cylinder
	Combustion chamber type		Semi-sphere
	Valve arrangement		O.H.C., chain drive
	Bore x stroke (mm)		62 x 49.5
	Compression ratio		9.7:1
	Compression pressure (kg/cm_)		16.0
	Max. output (ps/rpm)		11/7500
	Max. torque (kg m/rpm)		1.1/5500
	Port timing	Intake (1mm) Open	5.5° BTDC
		Intake (1mm) Close	27.5° ABDC
		Exhaust (1mm) Open	36° BBDC
		Exhaust (1mm) Close	4° ATDC
	Valve clearance (cold) (mm)	Intake	0.06
		Exhaust	0.06
	Idle speed (rpm)		1700rpm
	Lubrication System: Lubrication type		Forced pressure & wet sump
	Lubrication System: Oil pump type		Inner/outer rotor type
	Lubrication System: Oil filter type		Full-flow filtration
	Lubrication System: Oil capacity		1.0 liter
	Lubrication System: Oil exchanging capacity		0.9 liter
	Cooling Type		Forced air cooling

Fuel System	Air cleaner type & No			Sponge
	Fuel capacity			8.1 liters
	Carburetor	Type		PD
		Float lever		14.8mm
		Venturi dia.(mm)		□25
		Throttle type		PISTON
Electrical	Ignition System	Type		CDI
		Ignition timing		15°BTDC/1700rpm
		Contact breaker		Non-contact point type
		Spark plug		NGK CR8E
		Spark plug gap		0.6_ 0.7mm
	Battery	Capacity		12V8AH
Power Drive System	Clutch	Type		CVT
	Transmission Gear	Type		Helical gear
		Operation		Automatic centrifugal type
	Reduction Gear	Type		Chain drive
		Reduction ratio	1st	2.8-0.95
			2nd	7.226
	Counter gear ratio			26.902
Moving Device	Front Axle	Caster angle		
		Trail length		
	Tire pressure (kg/cm_)		Front	0.2
			Rear	0.25
	Turning angle		Left	44°
			Right	44°
Brake system type			Rear	Disk brake / Drum brake
			Front	Drum brake
Damping Device	Suspension type		Front	Swing
			Rear	Swing arm
	Shock type		Front	Swing
			Rear	Swing arm
Frame type				SP pipe

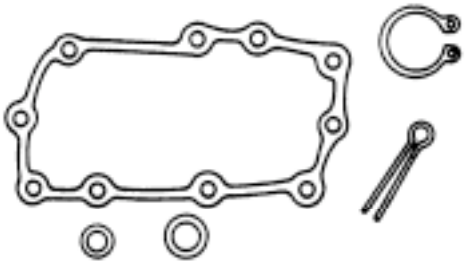
SPECIFICATIONS

Name & Model No.			LA25AB
Motorcycle Name & Type			MX'er
Overall length (mm)			1685
Overall width (mm)			980
Overall height (mm)			990
Wheel base (mm)			1120
Engine type			OHC
Displacement (cc)			124
Fuel Used			92# nonleaded gasoline
Net weight (kg)	Front wheel		74
	Rear wheel		78
	Total		152
Gross weight(kg)	Front wheel		80
	Rear wheel		82
	Total		162
Tires	Front wheel		20*7-8
	Rear wheel		22*10-8
Ground clearance (mm)			130
Perform-ance	Breaking distance (m)(ANSI)		20.6 below
	Min. turning radius (m)		2.5
Engine	Starting system		Starting motor
	Type		Gasoline, 4-stroke
	Cylinder arrangement		Single cylinder
	Combustion chamber type		Semi-sphere
	Valve arrangement		O.H..C., chain drive
	Bore x stroke (mm)		56.5 x 49.5
	Compression ratio		9.2:1
	Compression pressure (kg/cm_)		14.0
	Max. output (ps/rpm)		9.8/7500
	Max. torque (kg m/rpm)		0.98/5500
	Port Timing	Intake (1mm) Open	5.5° BTDC
		Intake (1mm) Close	27.5° ABDC
		Exhaust (1mm) Open	36° BBDC
		Exhaust (1mm) Close	4° ATDC
	Valve clearance (cold) (mm)	Intake	0.06
		Exhaust	0.06
	Idle speed (rpm)		1700rpm
	Lubrication System	Lubrication type	Forced pressure & wet sump
		Oil pump type	Inner/outer rotor type
		Oil filter type	Full-flow filtration
		Oil capacity	1.0 liter
		Oil exchanging capacity	0.9 liter
	Cooling Type		Forced air cooling

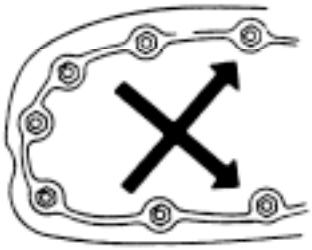
Fuel System	Air cleaner type & No			Sponge
	Fuel capacity			8.1 liters
	Carburetor	Type		PD
		Piston dia. (mm)		14.8mm
		Venturi dia.(mm)		□25
		Throttle type		PISTON
Electrical	Ignition System	Type		CDI
		Ignition timing		15°BTDC/1700rpm
		Contact breaker		Non-contact point type
		Spark plug		NGK CR8E
		Spark plug gap		0.6_ 0.7mm
	Battery	Capacity		12V8AH
Power Drive System	Clutch	Type		CVT
	Transmission Gear	Type		Helical gear
		Operation		Automatic centrifugal type
	Reduction Gear	Type		Chain drive
		Reduction ratio	1st	2.8-0.95
			2nd	7.226
	Counter gear ratio			26.902
Moving Device	Front Axle	Caster angle		
		Trail length		
	Tire pressure (kg/cm_)		Front	0.2
			Rear	0.25
	Turning angle		Left	44°
			Right	44°
Brake system type			Rear	Disk brake / Drum brake
			Front	Drum brake
Damping Device	Suspension type		Front	Swing
			Rear	Swing arm
	Shock type		Front	Swing
			Rear	Swing arm
Frame type				SP pipe

SERVICE PRECAUTIONS

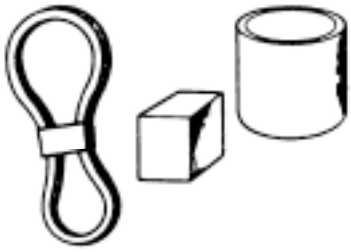
■ Make sure to install new gaskets, O-rings, circlips, cotter pins, etc. when reassembling.



■ When tightening bolts or nuts, begin with larger-diameter to smaller ones at several times, and tighten to the specified torque diagonally.



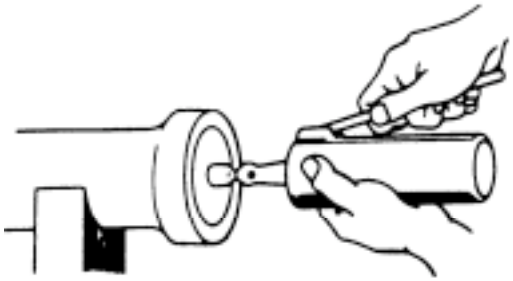
■ Use genuine parts and lubricants.



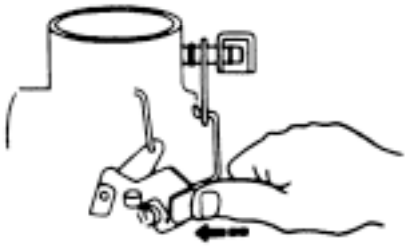
■ When servicing the motorcycle, be sure to use special tools for removal and installation.

■ After disassembly, clean removed parts. Lubricate sliding surfaces with engine oil before reassembly.

■ Apply or add designated greases and lubricants to the specified lubrication points.

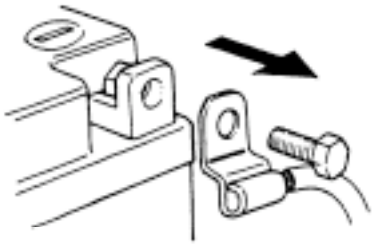


■ After reassembly, check all parts for proper tightening and operation.

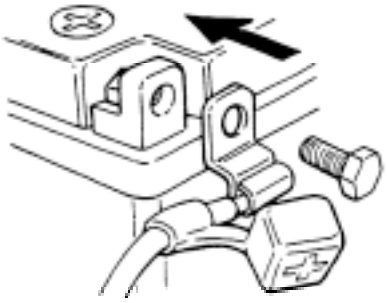


■ When two persons work together, pay attention to the mutual working safety.

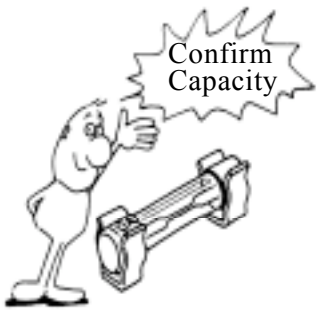
■ Disconnect the battery negative (-) terminal before operation.
■ When using a spanner or other tools, make sure not to damage the motorcycle surface.



■ After operation, check all connecting points, fasteners, and lines for proper connection and installation.
■ When connecting the battery, the positive (+) terminal must be connected first.
■ After connection, apply grease to the battery terminals.
■ Terminal caps shall be installed securely.

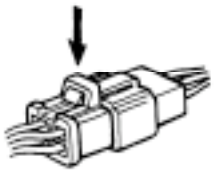


■ If the fuse is burned out, find the cause and repair it. Replace it with a new one according to the specified capacity.



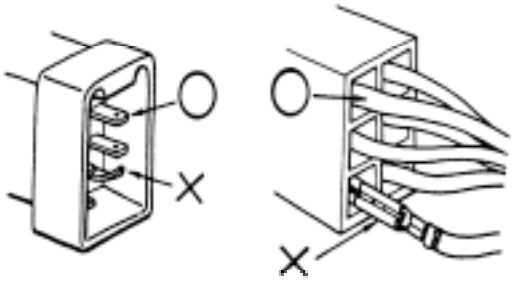
■ After operation, terminal caps shall be installed securely.

■ When taking out the connector, the lock on the connector shall be released before operation.

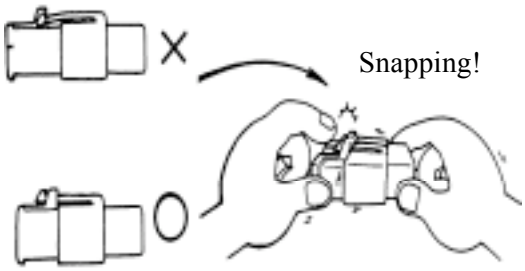


■ Hold the connector body when connecting or disconnecting it.
■ Do not pull the connector wire.

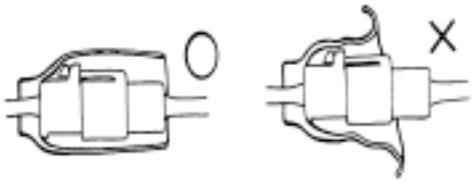
■ Check if any connector terminal is bending, protruding or loose.



- The connector shall be inserted completely.
- If the double connector has a lock, lock it at the correct position.
- Check if there is any loose wire.



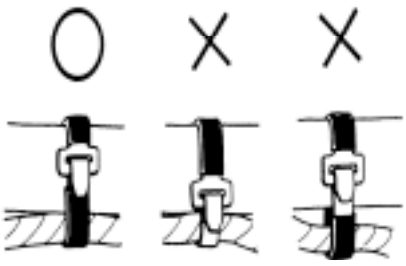
- Before connecting a terminal, check for damaged terminal cover or loose negative terminal.



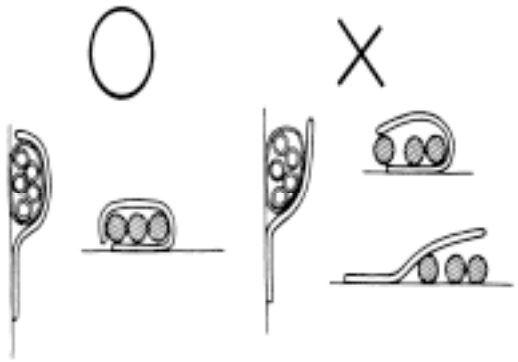
- Check the double connector cover for proper coverage and installation.

- Insert the terminal completely.
- Check the terminal cover for proper coverage.
- Do not make the terminal cover opening face up.

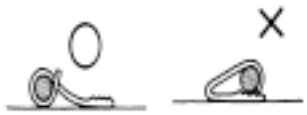
- Secure wire harnesses to the frame with their respective wire bands at the designated locations.
  Tighten the bands so that only the insulated surfaces contact the wire harnesses.



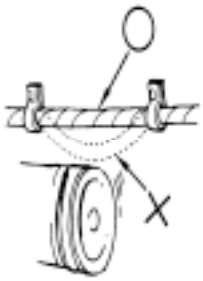
■ After clamping, check each wire to make sure it is secure.



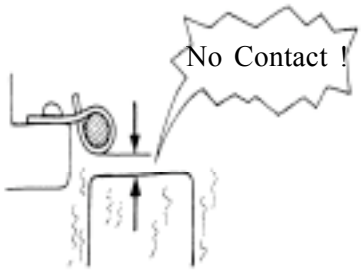
■ Do not squeeze wires against the weld or its clamp.



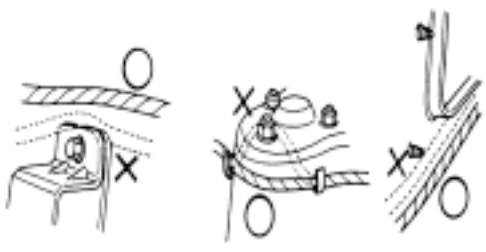
■ After clamping, check each harness to make sure that it is not interfering with any moving or sliding parts.



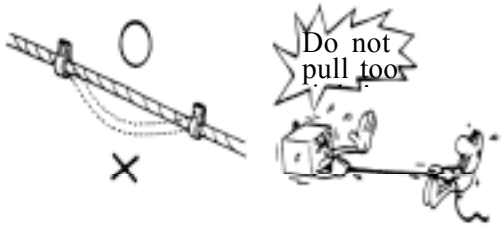
■ When fixing the wire harnesses, do not make it contact the parts which will generate high heat.



■ Route wire harnesses to avoid sharp edges or corners. Avoid the projected ends of bolts and screws.
■ Route wire harnesses passing through the side of bolts and screws. Avoid the projected ends of bolts and screws.

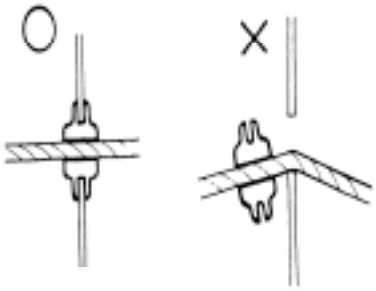


■ Route harnesses so they are neither pulled tight nor have excessive slack.

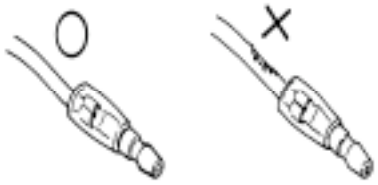


■ Protect wires and harnesses with electrical tape or tube if they contact a sharp edge or corner.

■ When rubber protecting cover is used to protect the wire harnesses, it shall be installed securely.

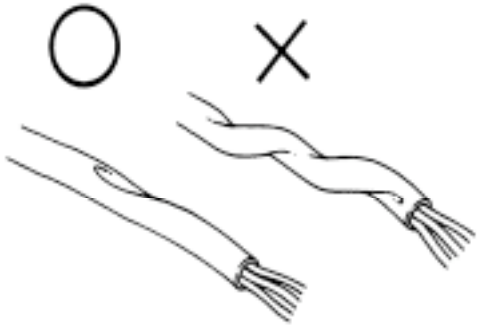


■ Do not break the sheath of wire.
■ If a wire or harness is with a broken sheath, repair by wrapping it with protective tape or replace it.



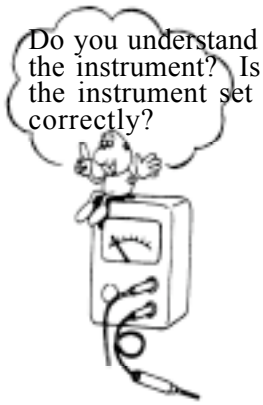
■ When installing other parts, do not press or squeeze the wires.

■ After routing, check that the wire harnesses are not twisted or kinked.



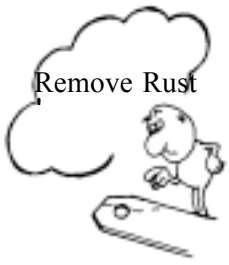
■ Wire harnesses routed along with handlebar should not be pulled tight, have excessive slack or interfere with adjacent or surrounding parts in all steering positions.

■ When a testing device is used, make sure to understand the operating methods thoroughly and operate according to the operating instructions.



■ Be careful not to drop any parts.

■ When rust is found on a terminal, remove the rust with sand paper or equivalent before connecting.



■ Symbols:
The following symbols represent the servicing methods and cautions included in this service manual.


Engine Oil

: Apply engine oil to the specified points. (Use designated engine oil for lubrication.)


Grease

: Apply grease for lubrication.


Gear Oil

: Transmission Gear Oil (90#)

: Use special tool.

: Caution

: Warning

TORQUE VALUES

STANDARD TORQUE VALUES

Item	Torque (kgf-m)	Item	Torque (kgf-m)
5mm bolt, nut	0.45_ 0.6	4mm screw	0.15_ 0.4
6mm bolt, nut	0.8_ 1.2	5mm screw	0.3_ 0.5
8mm bolt, nut	1.8_ 2.5	6mm screw, SH bolt	0.7_ 1.1
10mm bolt, nut	3.0_ 4.0	6mm flange bolt and nut	1.0_ 1.4
12mm bolt, nut	5.0_ 6.0	8mm flange bolt and nut	2.4_ 3.0
14mm bolt, nut	6.0_ 8.0	10mm flange bolt and nut	3.5_ 4.5

Torque specifications listed below are for important fasteners.

ENGINE

Item	Q'ty	Thread dia.(mm)	Torque (kgf-m)	Remarks
Stud bolt	4	8	0.7_ 1.1	
Oil filter screen cap	1	30	1.0_ 2.0	
Seat ball stopper bolt	1	14	4.5_ 5.0	
Bearing hold	1	6	1.0_ 1.2	
L cover	8	6	1.0_ 1.4	
Stud bolt	4	6	0.7_ 1.1	
Cam holder	4	8	1.8_ 2.2	
Tappet ADJ nut	2	6	1.4_ 1.8	
Pivot tensioner	1	8	0.8_ 1.2	
Lifter tensioner	2	6	1.0_ 1.4	
Lifter tensioner	1	6	0.35_ 0.5	
MISTON oil drive bolt	9	6	0.8_ 1.2	
Driver face	1	12	5.5_ 6.5	
Clutch outer	1	12	5.0_ 6.0	
Oneway clutch	3	8	2.4_ 3.0	
Balancer shaft	1	16	4.0_ 5.0	
ACG flywheel	1	14	5.0_ 6.0	
Spark plug	1	8	1.1_ 2.3	
Drain bolt mission	1	8	0.8_ 1.2	
Drain plug	1	12	2.0_ 3.0	
Clamper wre harness	1	6	0.8_ 1.2	
Motor srart	2	6	0.8_ 1.2	
Oil pump	2	6	0.8_ 1.2	
Oil pump sprocket	2	6	0.8_ 1.2	
Head CYL bolt	2	6	0.8_ 1.2	
Starting clutch	1	22	0.9_ 10.0	
Startor	4	5	0.8_ 1.2	

Item	Q'ty	Thread dia.(mm)	Torque (kgf-m)	Remarks
R cover	9	6	0.8_ 1.2	
Head cover	4	6	0.8_ 1.2	
Cap R cover	1	6	0.8_ 1.2	
Guide star change handle	3	6	0.8_ 1.2	
Sprocket drive plate	2	6	1.0_ 1.6	
Carburetor	2	6	0.8_ 1.2	
Check bolt oil	1	10	1.0_ 1.5	

FRAME

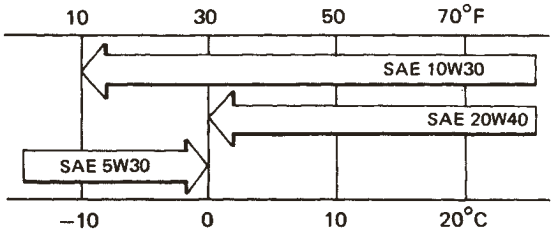
Item	Q'ty	Thread dia.(mm)	Torque (kgf-m)	Remarks
Steering stem nut	1	14	6.0_ 8.0	
Swing arm nut	4	10	4.0_ 5.0	
Rear wheel nut	2	14	6.0_ 8.0	
Front wheel nut	2	14	6.0_ 8.0	
Rear shock absorber upper mount bolt	1	10	3.5_ 4.5	
Front shock absorber upper mount bolt	2	10	3.5_ 4.5	
Front shock absorber lower mount bolt	2	10	3.5_ 4.5	
Rear fork axle	1	14	6.0_ 8.0	
Rear hub nut	4	12	6.0_ 8.0	
Rear wheel shaft nut	2	32	11.0_ 13.0	
Rear engine bracket up bolt	1	10	3.5_ 4.5	
Rear engine bracket bolt	1	10	3.5_ 4.5	
Engine hanger bracket bolt	1	10	3.5_ 4.5	
Exhaust muffler lock bolt	2	8	3.2_ 3.8	

SPECIAL TOOLS

Tool Name	Tool No.	Remarks Ref. Page
Flywheel puller	E003	
Lock nut wrench	E009	
Valve adjuster	E012	
Valve spring compressor	E040	
Oil seal and bearing install	E014	
Universal holder	E017	
Flywheel holder	E021	
Clutch spring compressor	E027	
Bearing puller	E008	
Bearing puller	E018	
Bearing puller	E020	
Bearing puller	E031	
Nut wrench	F010	
Float level gauge		

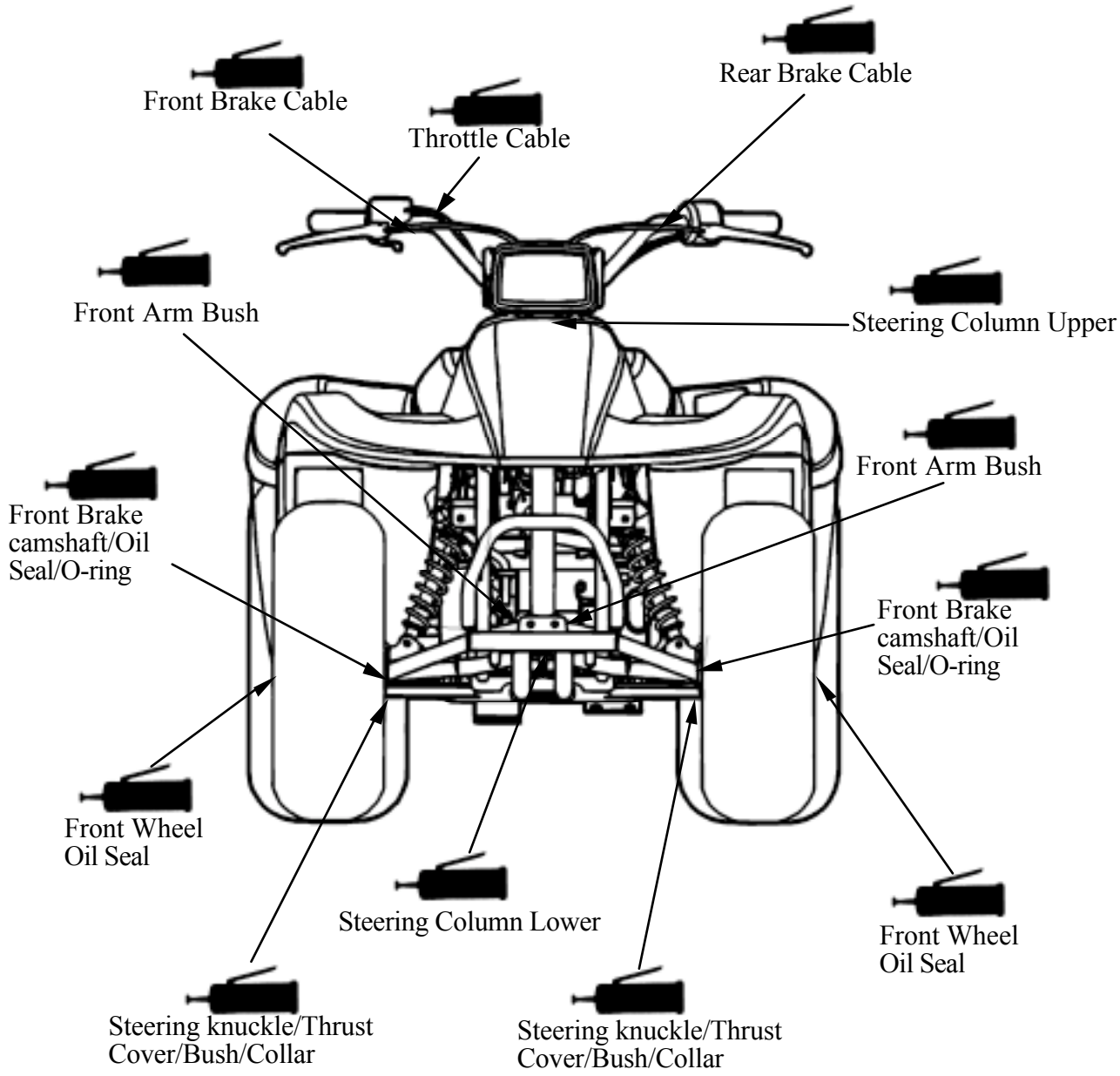
LUBRICATION POINTS

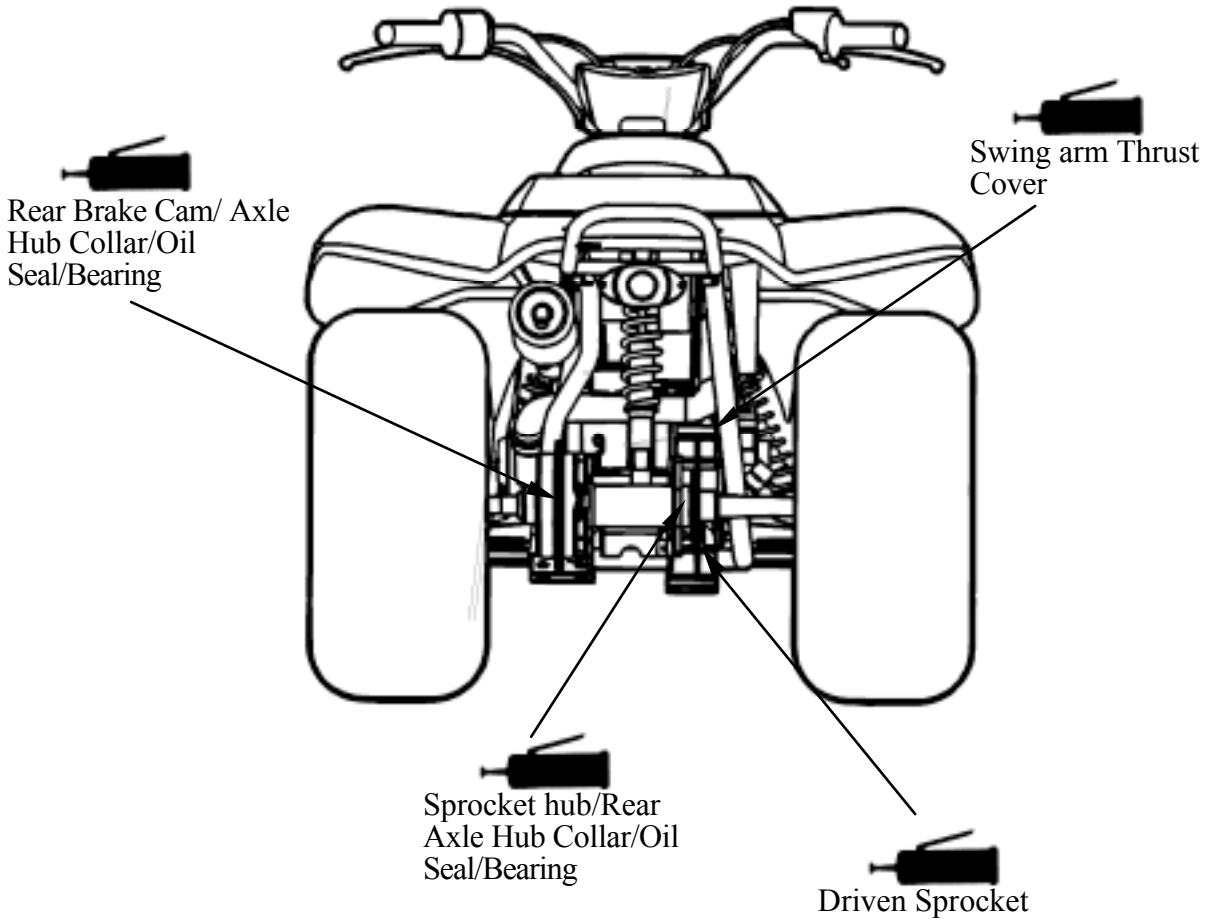
ENGINE

Lubrication Points	Lubricant
Valve guide/valve stem movable part Cam lobes Valve rocker arm friction surface Cam chain Cylinder lock bolt and nut Piston surroundings and piston ring grooves Piston pin surroundings Cylinder inside wall Connecting rod/piston pin hole Connecting rod big end Crankshaft right side oil seal Crankshaft one-way clutch movable part Oil pump drive chain Balance gear A.C. generator Starter one-way clutch Bearing movable part O-ring face Oil seal lip	• Genuine KYMCO Engine Oil (SAE15W-40) • API SG Engine Oil 
Transmission gear and movable parts	Gear oil: SAE90#

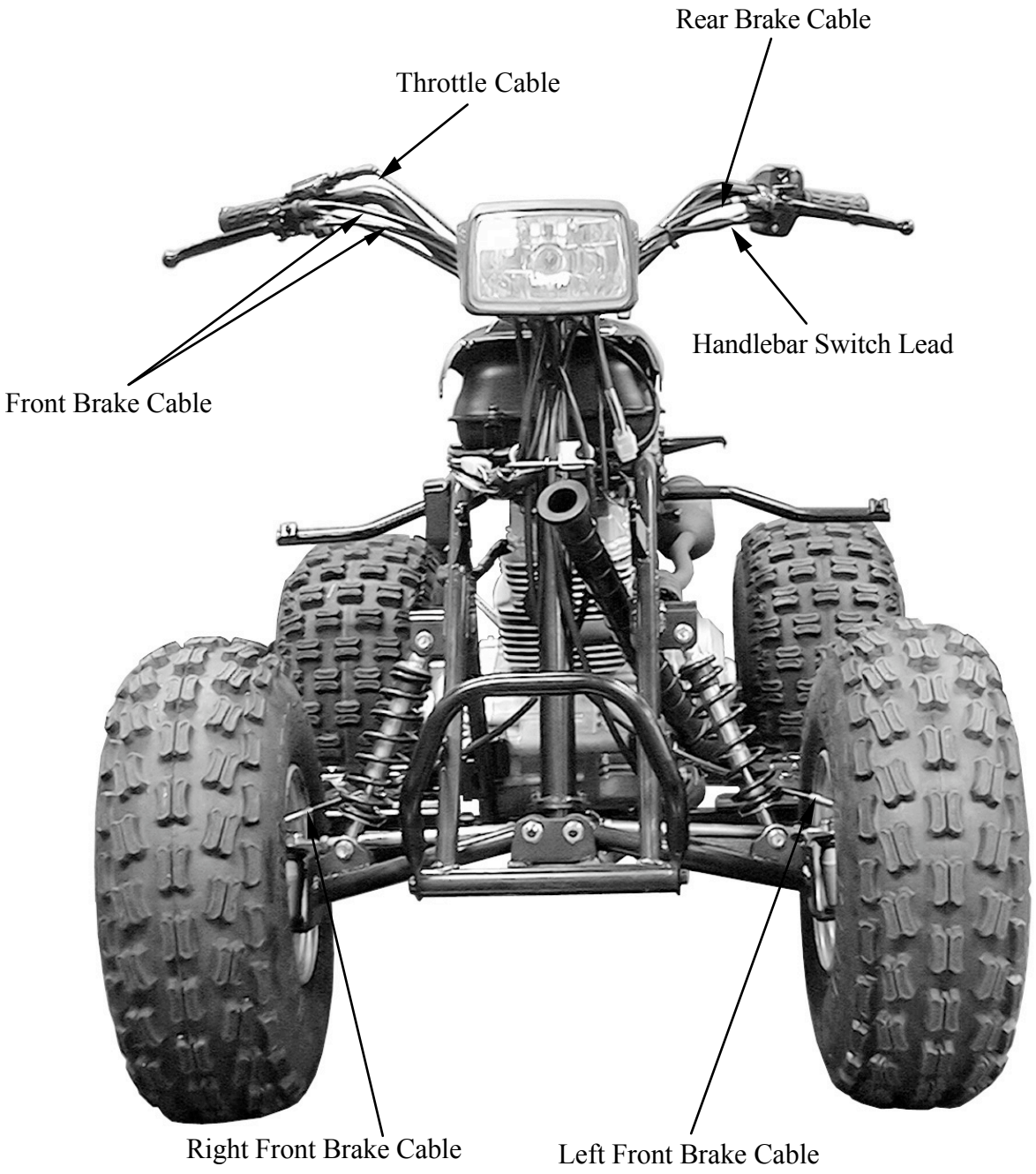
FRAME

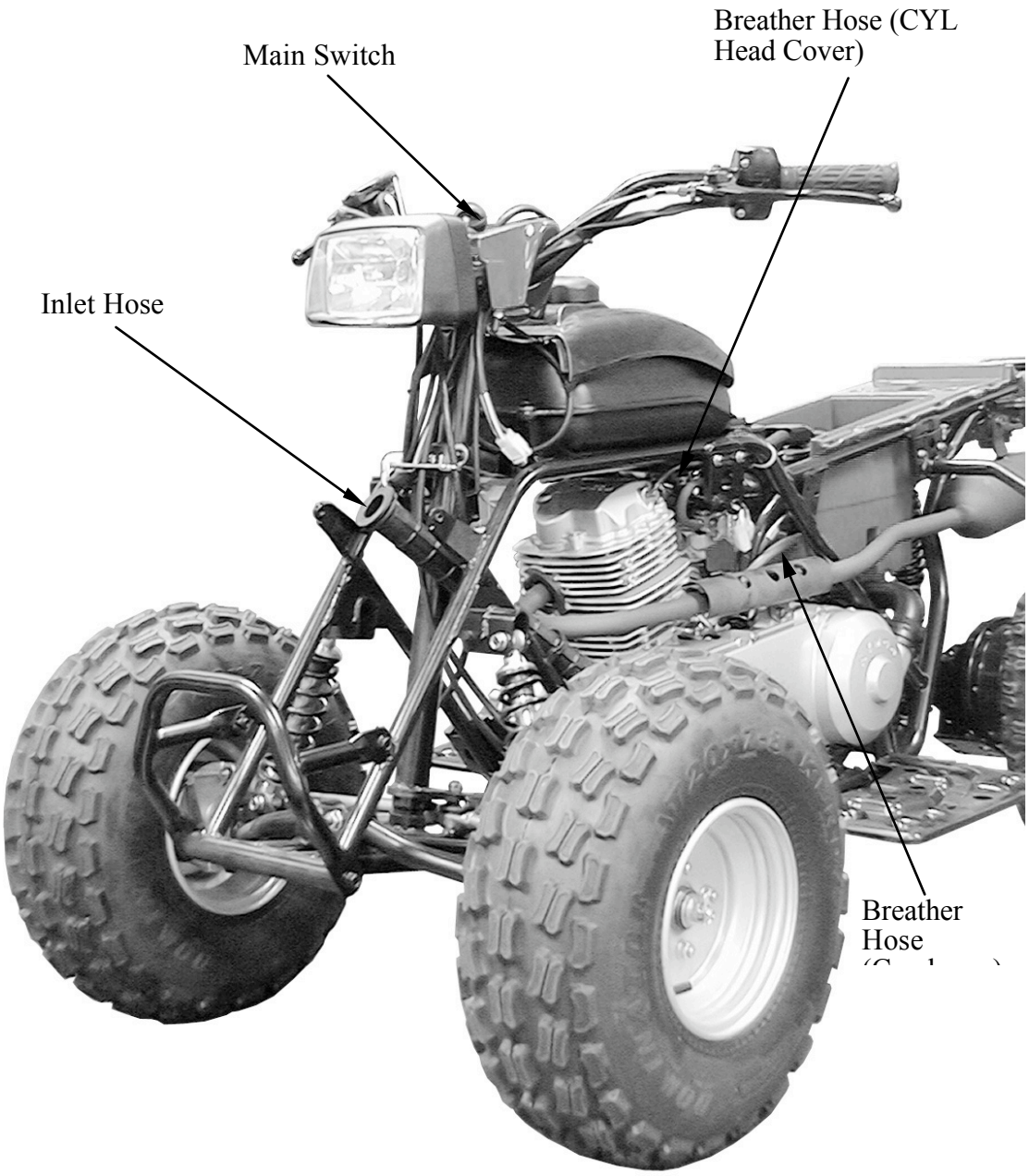
The following is the lubrication points for the frame.
Use general purpose grease for parts not listed.
Apply clean engine oil or grease to cables and movable parts not specified. This will avoid abnormal noise and rise the durability of the motorcycle.

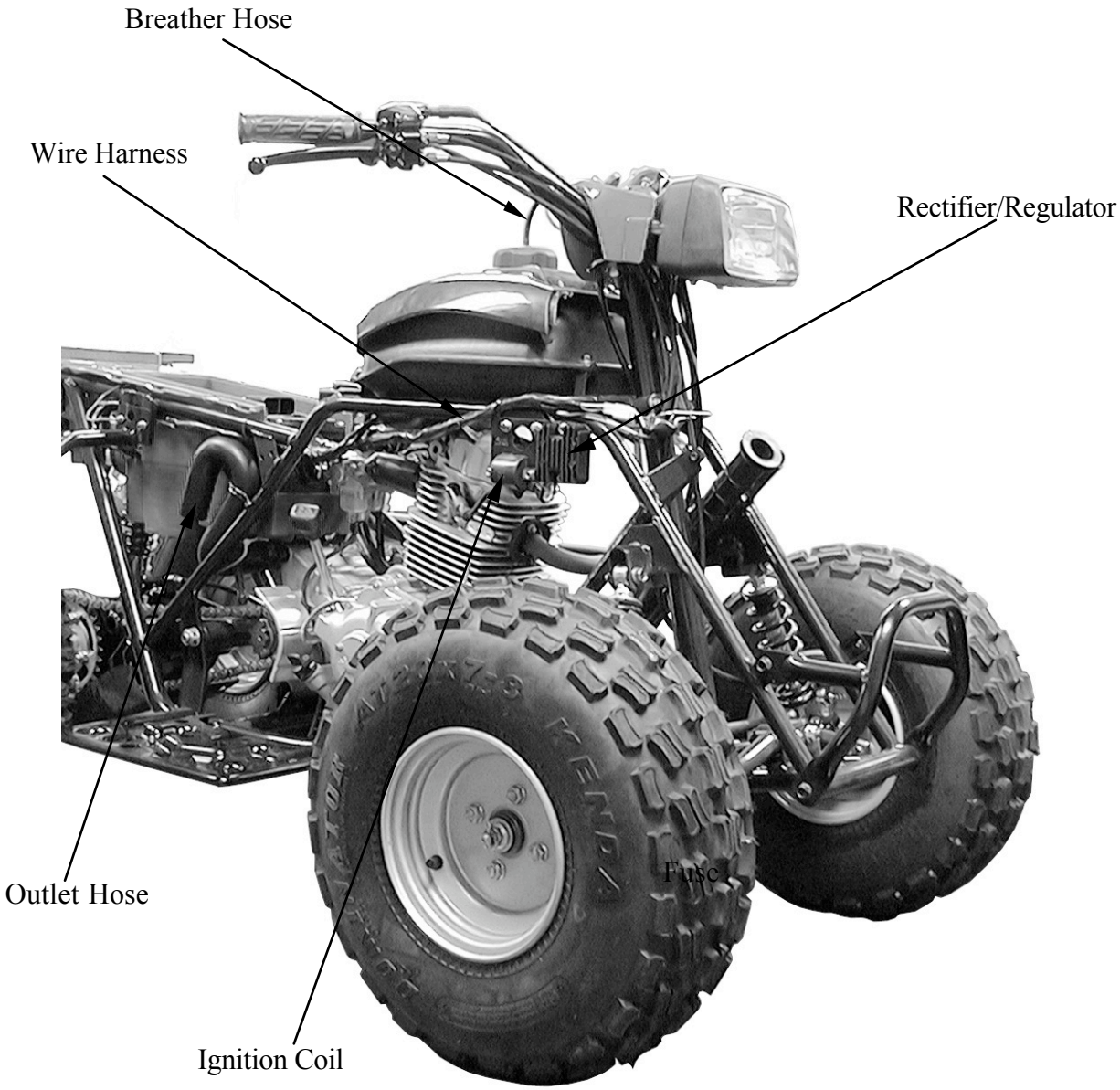


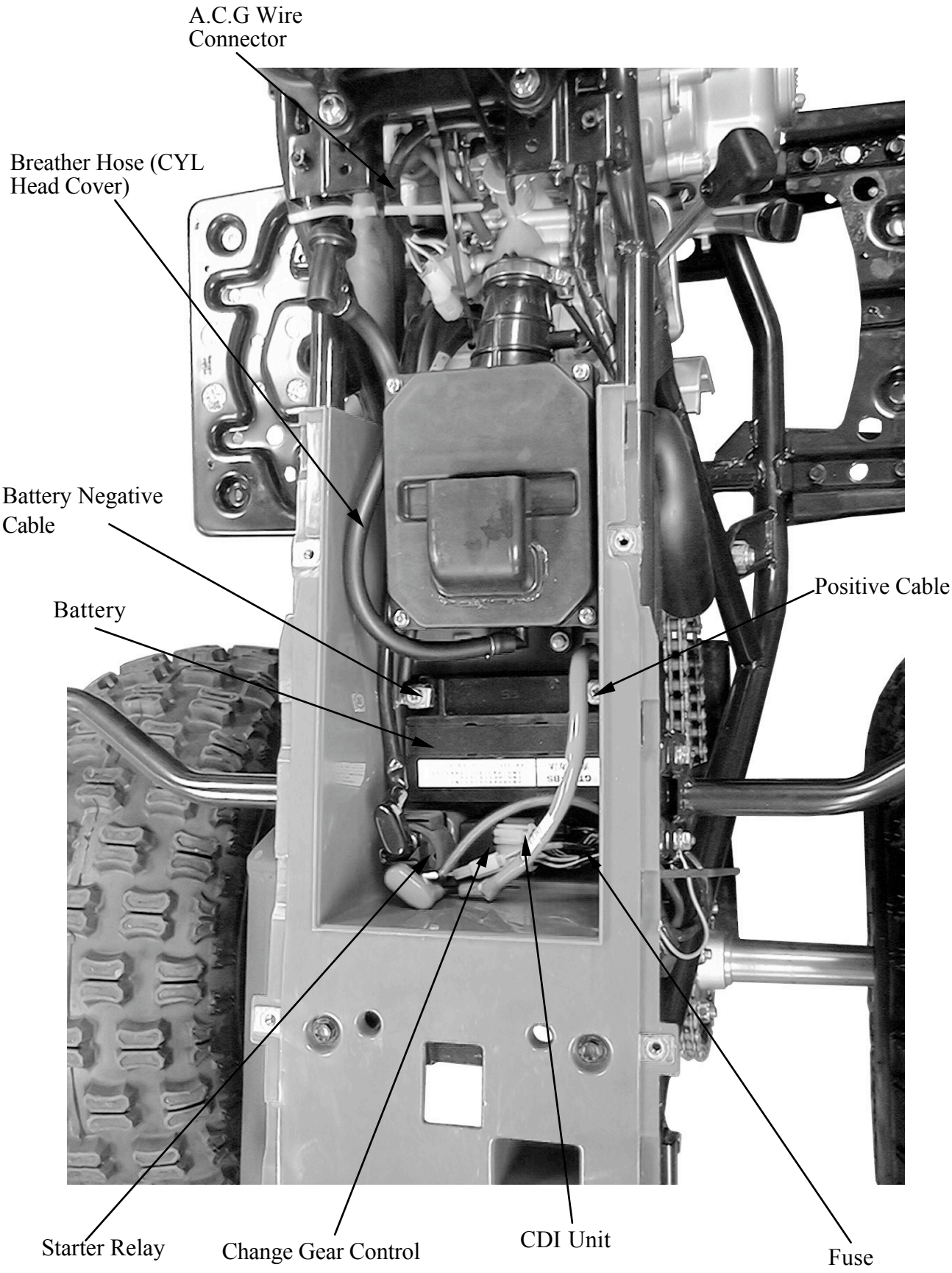

Rear Brake Cam/ Axle Hub Collar/Oil Seal/Bearing
Swing arm Thrust Cover
Sprocket hub/Rear Axle Hub Collar/Oil Seal/Bearing
Driven Sprocket

CABLE & HARNESS ROUTING




Main Switch
Breather Hose (CYL Head Cover)
Inlet Hose
Breather Hose

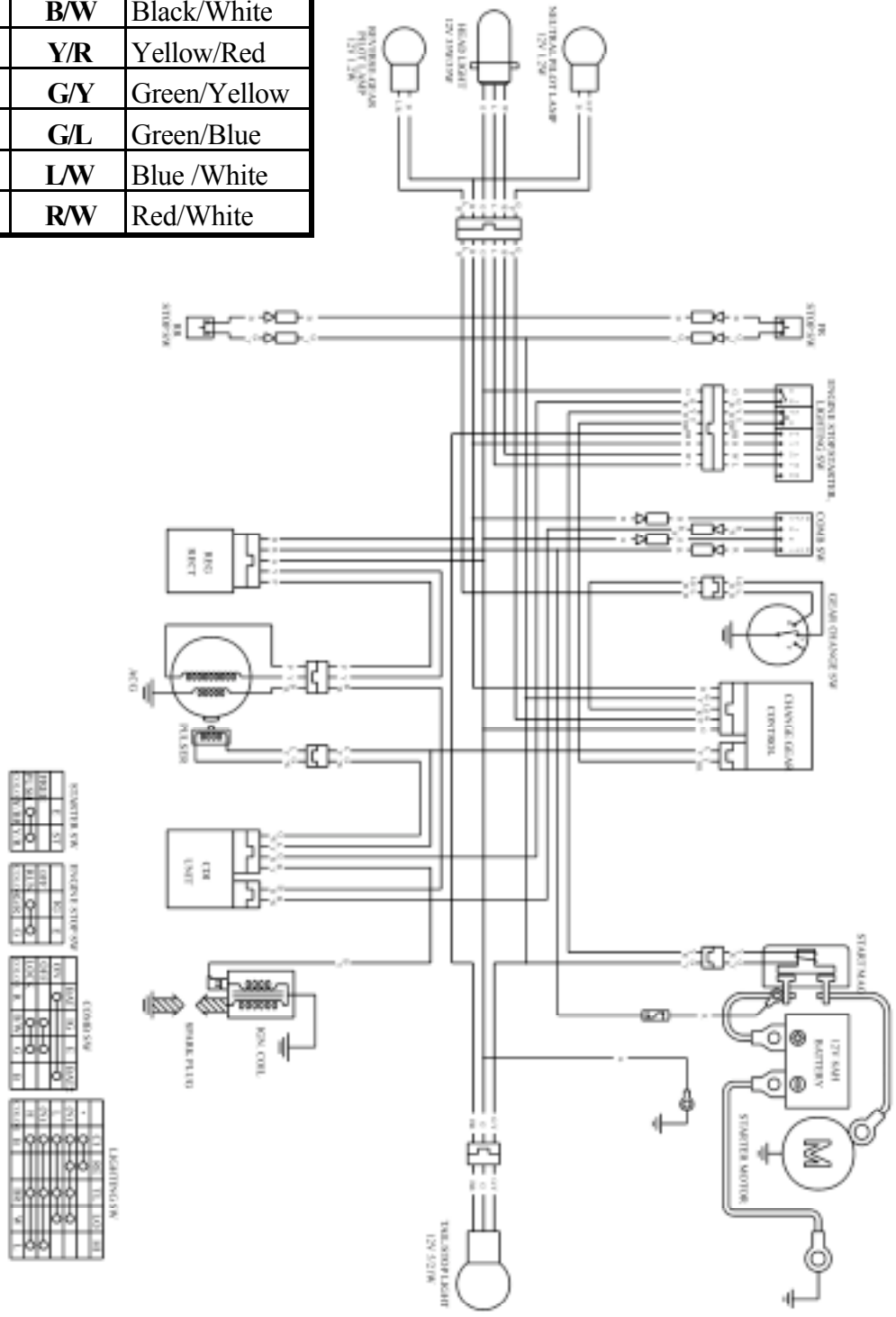

Breather Hose
Wire Harness
Rectifier/Regulator
Outlet Hose
Fuse
Ignition Coil


A.C.G Wire Connector
Breather Hose (CYL Head Cover)
Battery Negative Cable
Positive Cable
Battery
Starter Relay
Change Gear Control
CDI Unit
Fuse

WIRING DIAGRAM

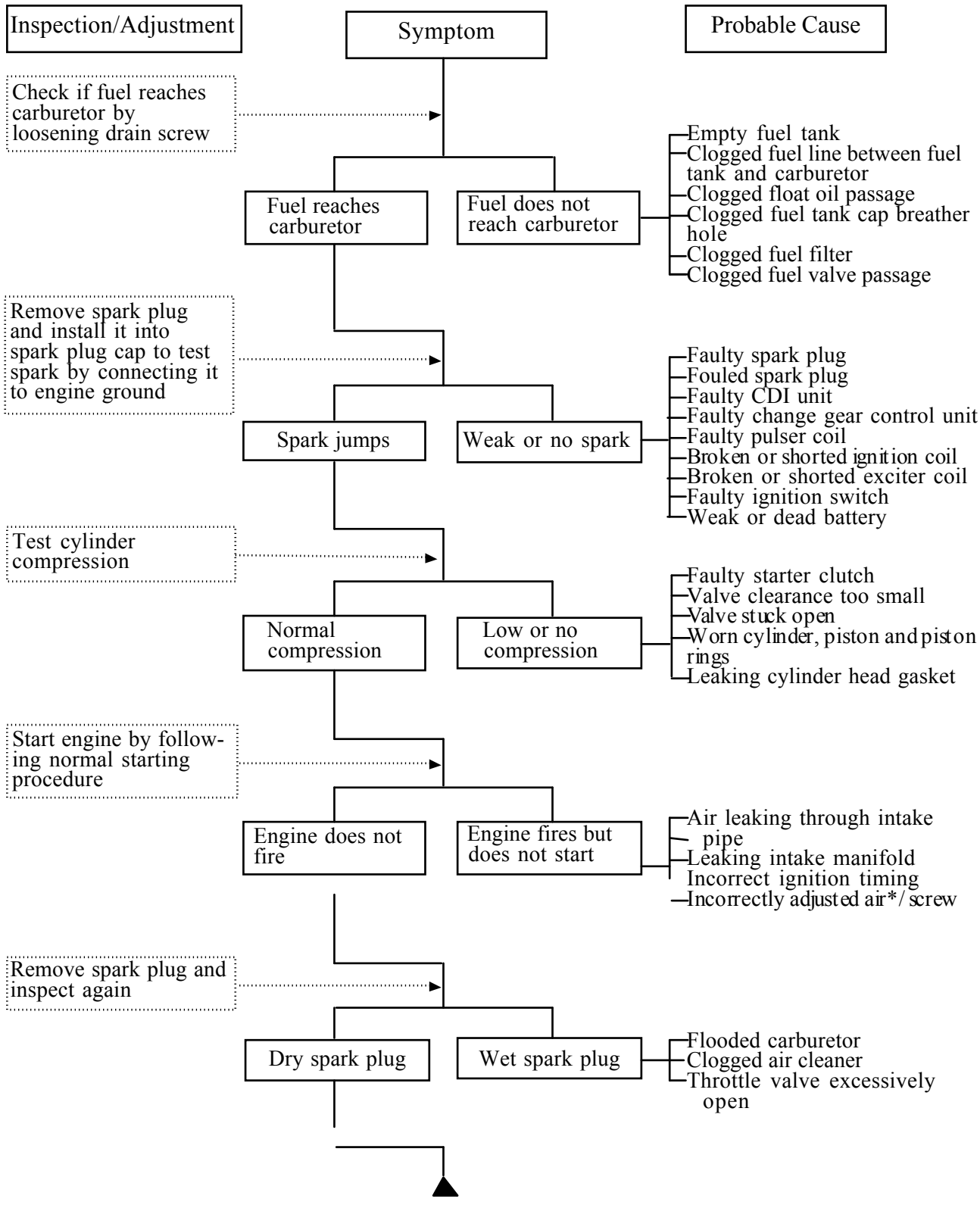
COLOR CODE

CODE	COLOR	CODE	COLOR
B	Black	**Sb**	Sky blue
Y	Yellow	**W**	White
G	Green	**B/W**	Black/White
R	Red	**Y/R**	Yellow/Red
L	Blue	**G/Y**	Green/Yellow
O	Orange	**G/L**	Green/Blue
Br	Brown	**L/W**	Blue /White
P	Pink	**R/W**	Red/White

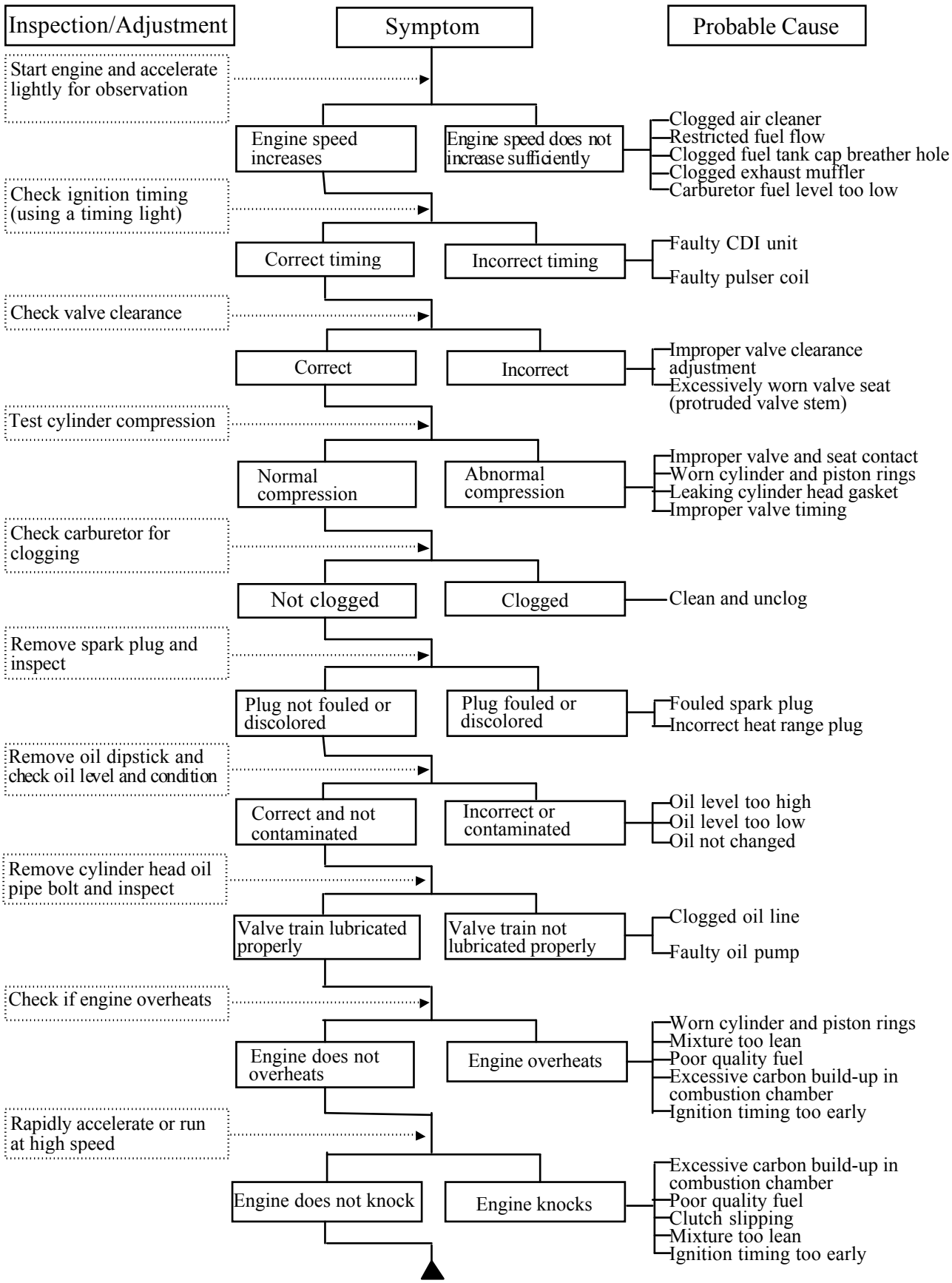


TROUBLESHOOTING

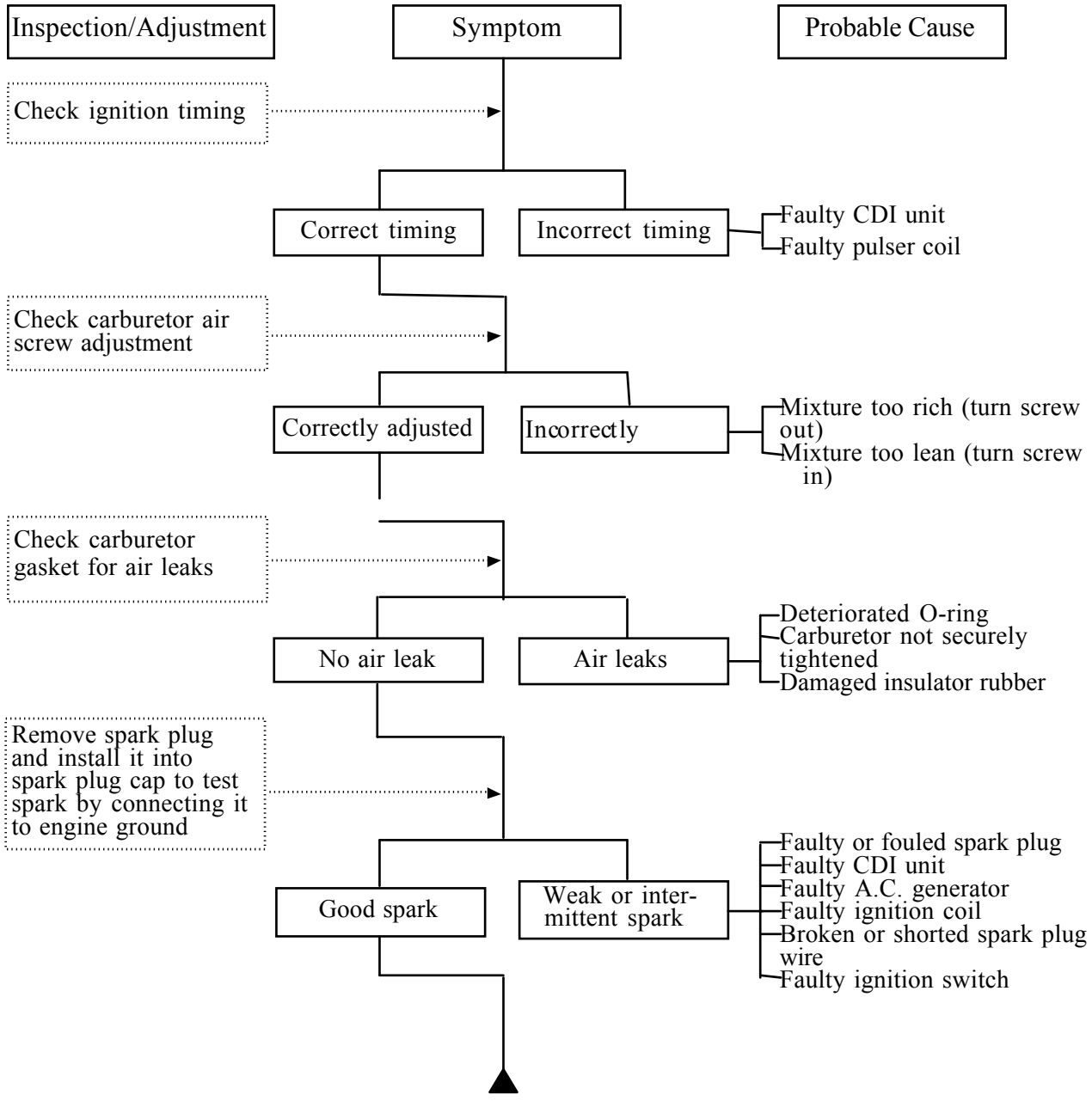
ENGINE WILL NOT START OR IS HARD TO START



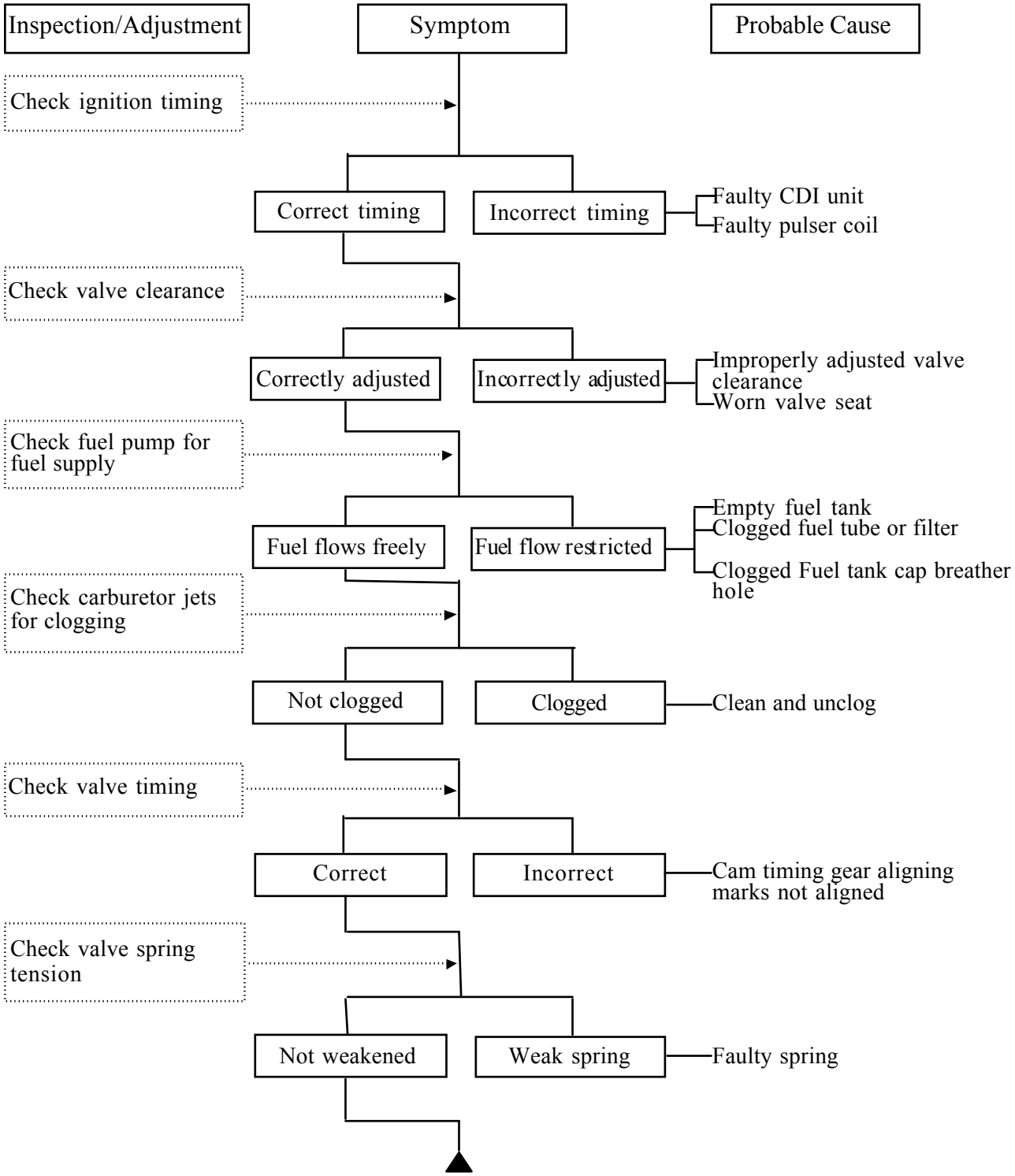
ENGINE LACKS POWER



POOR PERFORMANCE (ESPECIALLY AT IDLE AND LOW SPEEDS)

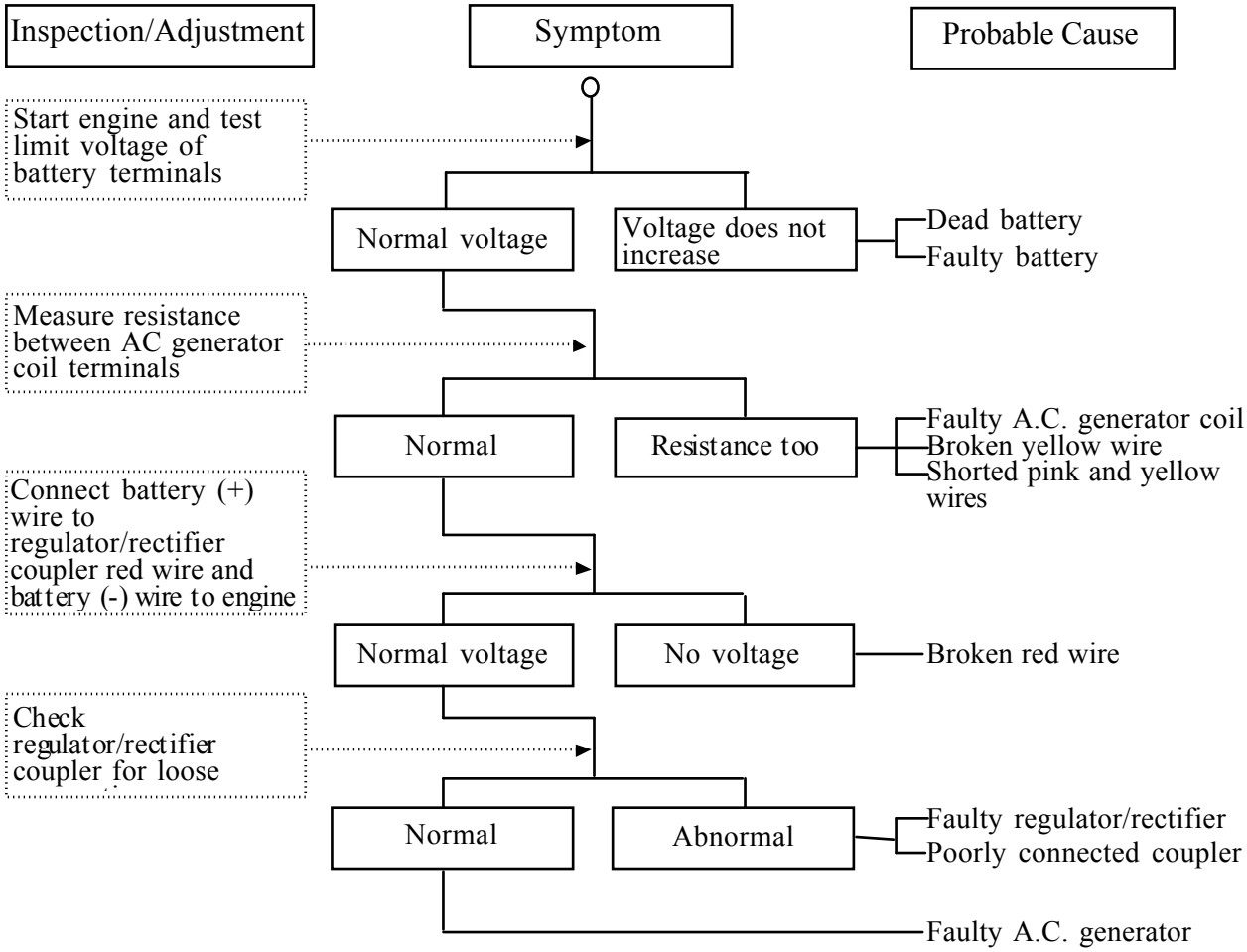


POOR PERFORMANCE (AT HIGH SPEED)

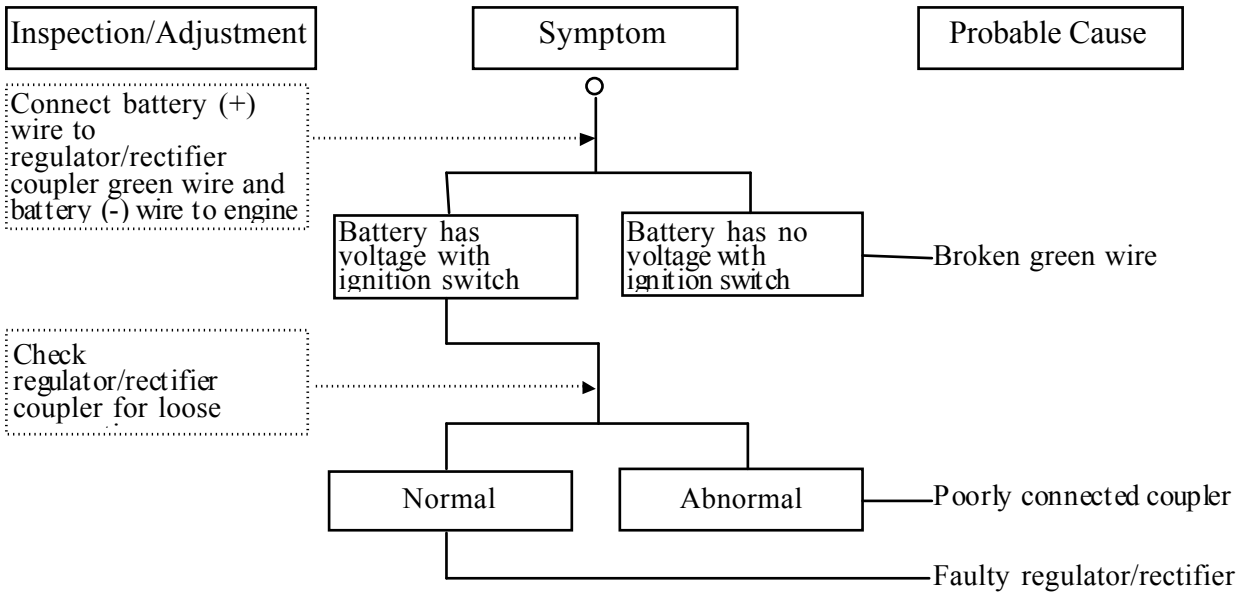


POOR CHARGING (BATTERY OVER DISCHARGING OR OVERCHARGING)

Undercharging



Overcharging



NO SPARK AT SPARK PLUG