

1. GENERAL INFORMATION

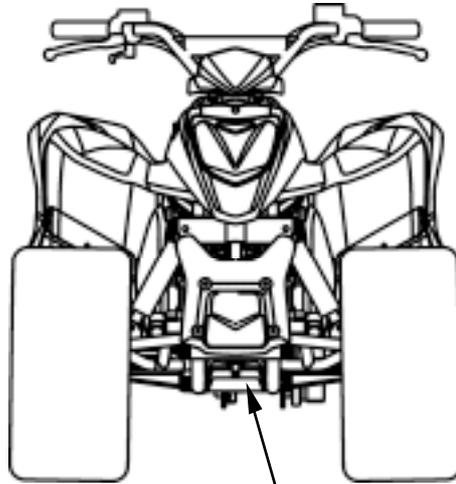
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GENERAL INFORMATION

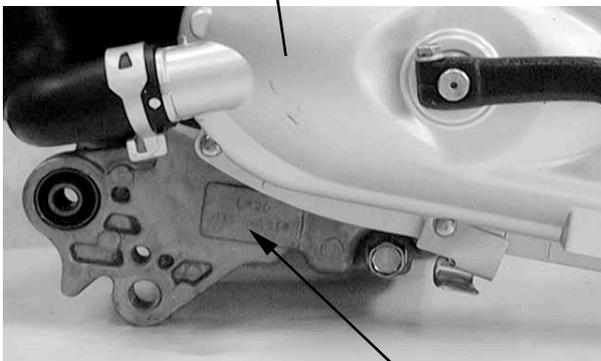
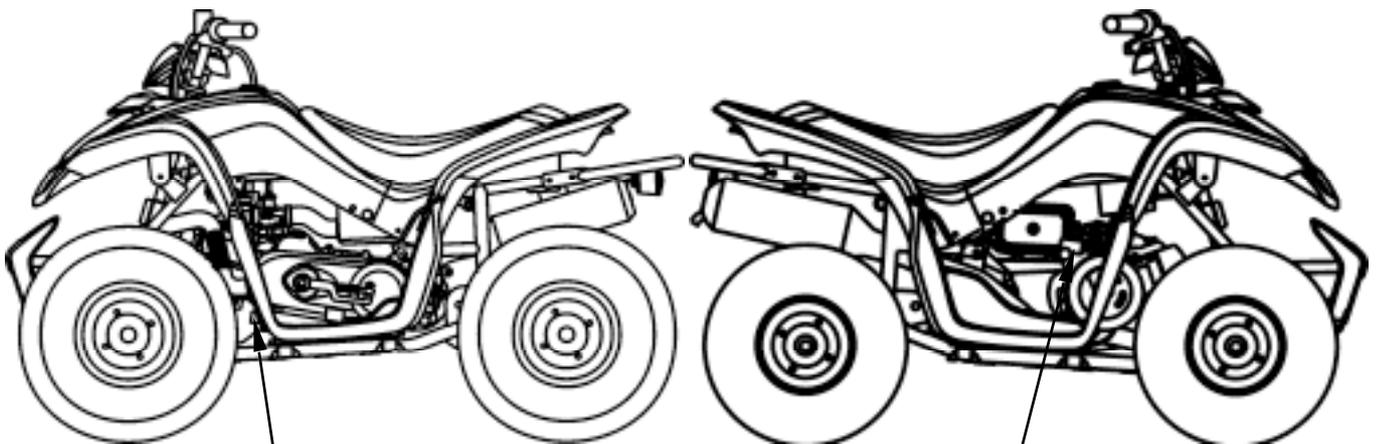
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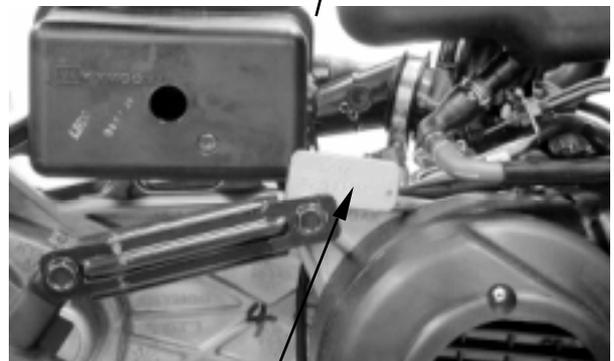
SERIAL NUMBER



Location of Frame Serial Number



Location of Engine Serial Number



Location of Engine Serial Number

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SPECIFICATIONS

Cooling Type	Air cooling
--------------	-------------

(Mongoose/KXR 90)

Name & Model No.		LA20AB		
Motorcycle Name & Type		Mongoose/KXR 90		
Overall length (mm)		1430		
Overall width (mm)		905		
Overall height (mm)		910		
Wheel base (mm)		965		
Engine type		O.H.C.		
Displacement (cc)		89.9		
Fuel Used		92# nonleaded gasoline		
Net weight (kg)	Front wheel	58		
	Rear wheel	56.5		
	Total	114.5		
Gross weight(kg)	Front wheel	61.5		
	Rear wheel	58.5		
	Total	120		
Tires	Front wheel	18*7-8		
	Rear wheel	18*9-8		
Ground clearance (mm)		104		
Breaking distance (m)(ANSI)		20.6 below		
Engine	Starting system		Motor & Kick starter	
	Type		Gasoline, 4-stroke	
	Cylinder arrangement		Single cylinder	
	Combustion chamber type		Semi-sphere	
	Valve arrangement		O.H.C., chain drive	
	Bore x stroke (mm)		47X51.8	
	Compression ratio		10.0:1	
	Compression pressure (kg/cm ₂)		16.0	
	Max. output (ps/rpm)		6.3/6500	
	Max. torque (kg m/rpm)		0.7/5500	
	Port timing	Intake (1mm)	Open	2°
			Close	26°
		Exhaust (1mm)	Open	44°
			Close	-17°
	Valve clearance (cold) (mm)	Intake	0.1	
		Exhaust	0.1	
	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		0.8 liter		
Oil exchanging capacity		0.7 liter		

Fuel System	Air cleaner type & No		Sponge	
	Fuel capacity		5.5 liters	
	Carburetor	Type	PB	
		Main jet No.	#100	
Venturi dia.(mm)		□14		
	Throttle type		PISTON	
Electrical	Ignition System	Type	CDI	
		Ignition timing	28°BTDC/4000rpm	
		Contact breaker	Non-contact point type	
		Spark plug	NGK C7HSA	
	Spark plug gap	0.6_ 0.7mm		
Battery	Capacity		12V4AH	
Power Drive System	Clutch	Type	CVT	
		Transmission Gear	Type	Helical gear
			Operation	Automatic centrifugal Type
	Reduction Gear	Type	V-Belt	
		Primary reduction	0.8~2.5	
	Final reduction	9.255		
Moving Device	FR/RR tire rolling circumference(mm)		1436/1436	
	Tire pressure (kg/cm ₂)	Front	0.25	
		Rear	0.25	
	Turning angle	Left	35°	
Right		35°		
Brake system type	Rear	Disk brake		
	Front	Drum brake		
Damping Device	Suspension type	Front	Swing axle	
		Rear	Swing arm	
Frame type		Steel tube frame		

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SPECIFICATIONS

(Mongoose/KXR50)

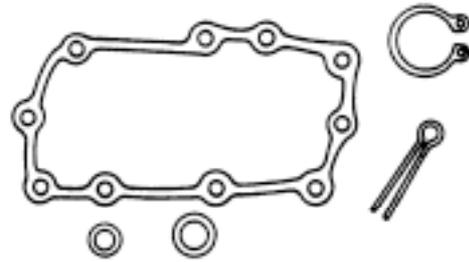
Name & Model No.		LA10BA		
Motorcycle Name & Type		Mongoose/KXR 50		
Overall length (mm)		1385		
Overall width (mm)		875		
Overall height (mm)		890		
Wheel base (mm)		900		
Engine type		2-stroke.		
Displacement (cc)		49.4		
Fuel Used		92# unleaded gasoline		
Net weight (kg)	Front wheel	49.6		
	Rear wheel	50.7		
	Total	100.3		
Gross weight(kg)	Front wheel	54.6		
	Rear wheel	55.7		
	Total	110.3		
Tires	Front wheel	16*8-7		
	Rear wheel	16*8-7		
Ground clearance (mm)		72		
Breaking distance (m)(ANSI)		20.6 below		
Engine	Starting system		Motor & Kick starter	
	Type		Gasoline, 2-stroke	
	Cylinder arrangement		Single cylinder	
	Combustion chamber type		Semi-sphere	
	Valve arrangement		Reed valve & piston	
	Bore x stroke (mm)		39X41.4	
	Compression ratio		7.2:1	
	Compression pressure (kg/cm ₂)		12.0	
	Max. output (ps/rpm)		4.6/6000	
	Max. torque (kg m/rpm)		0.55/5500	
	Port timing	Intake (1mm)	Open	Automatic controlled
			Close	Automatic controlled
		Exhaust (1mm)	Open	—
	Close			
	Valve clearance (cold) (mm)	Intake		
		Exhaust		
	Idle speed (rpm)		2000rpm	
	Lubrication type		Separate type	
	Oil pump type		Plunger type	
	Oil filter type		Full-flow filtration	
Cooling Type		Air cooling		

Fuel System	Air cleaner type & No		Sponge	
	Fuel capacity		5.5 liters	
	Carburetor	Type	PB	
		Main jet No.	82	
		Venturi dia.(mm)	□14	
Throttle type		PISTON		
Electrical	Ignition System	Type	CDI	
		Ignition timing	15°BTDC/1700rpm	
		Contact breaker	Non-contact point type	
		Spark plug	NGK BR8HAS	
	Spark plug gap	0.6_ 0.7mm		
Battery	Capacity	12V4AH		
Power Drive System	Clutch	Type	CVT	
		Transmission Gear	Type	Helical gear
	Operation		Automatic centrifugal Type	
	Reduction Gear		Type	V-Belt
		Primary reduction Final reduction	0.895~3.113 11.05	
Moving Device	FR/RR tire rolling circumference(mm)		1247/1247	
	Tire pressure (kg/cm ₂)	Front	0.25	
		Rear	0.25	
	Turning angle	Left	35°	
		Right	35°	
Brake system type		Rear	Drum brake	
		Front	Drum brake	
Damping Device	Suspension type	Front	Swing axle	
		Rear	Swing arm	
Frame type		Steel tube frame		

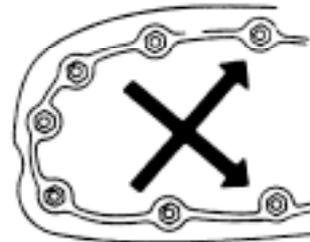
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SERVICE PRECAUTIONS

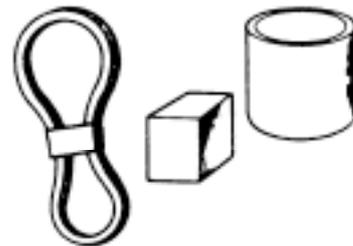
- Make sure to install new gaskets, O-rings, circlips, cotter pins, etc. when reassembling.



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



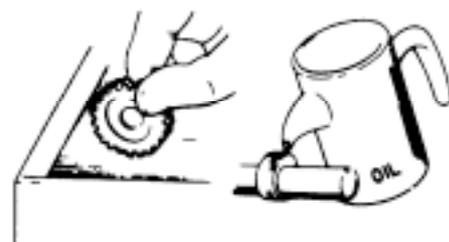
- Use genuine parts and lubricants.



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

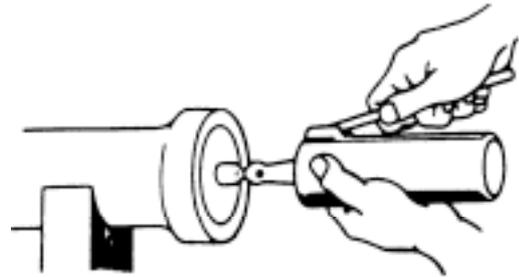


- After disassembly, clean removed parts. Lubricate sliding surfaces with engine oil before reassembly.



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



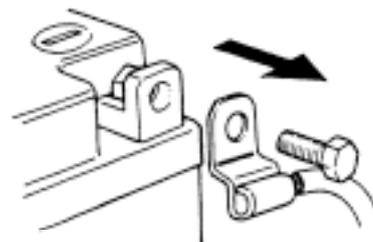
- After reassembly, check all parts for proper tightening and operation.



- 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.

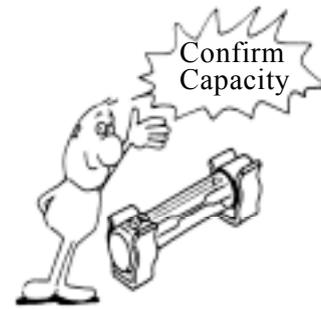


- After operation, check all connecting points, fasteners, and lines for proper connection and installation.
- When connecting the battery, the positive (+) terminal must be connected first.
- After connection, apply grease to the battery terminals.
- Terminal caps shall be installed securely.



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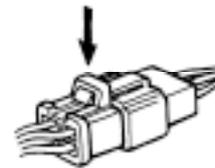
- If the fuse is burned out, find the cause and repair it. Replace it with a new one according to the specified capacity.



- After operation, terminal caps shall be installed securely.



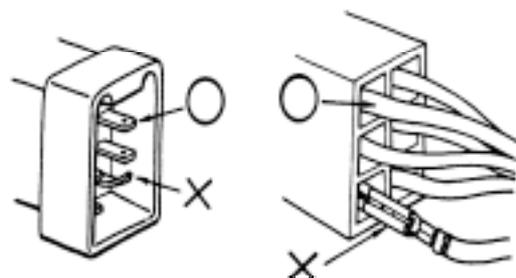
- When taking out the connector, the lock on the connector shall be released before operation.



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

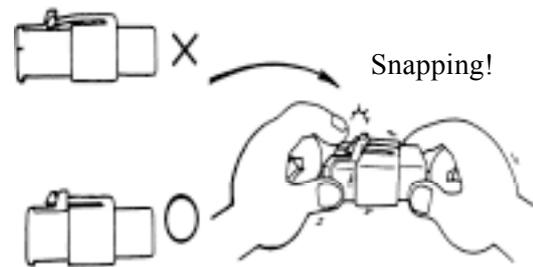


- Check if any connector terminal is bending, protruding or loose.

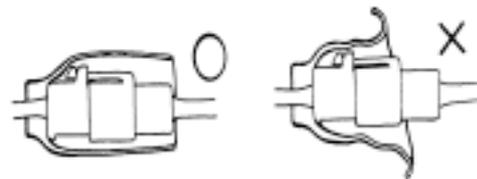


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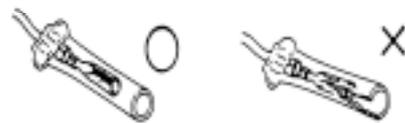
- The connector shall be inserted completely.
- If the double connector has a lock, lock it at the correct position.
- Check if there is any loose wire.



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



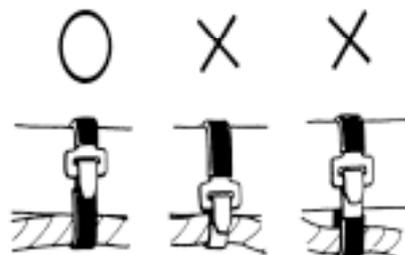
- Check the double connector cover for proper coverage and installation.



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

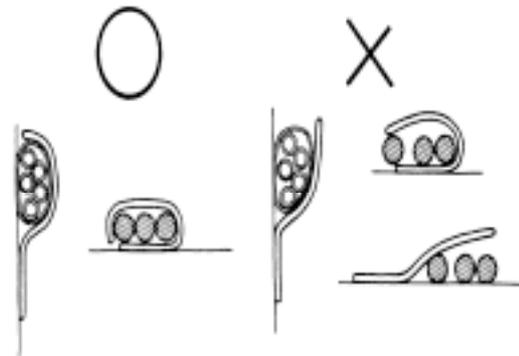


- Secure wire harnesses to the frame with their respective wire bands at the designated locations. Tighten the bands so that only the insulated surfaces contact the wire harnesses.



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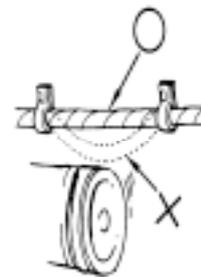
- After clamping, check each wire to make sure it is secure.



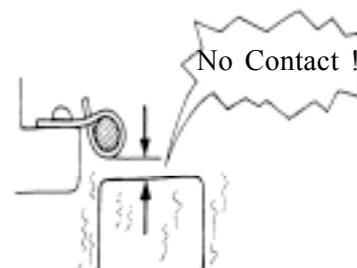
- Do not squeeze wires against the weld or its clamp.



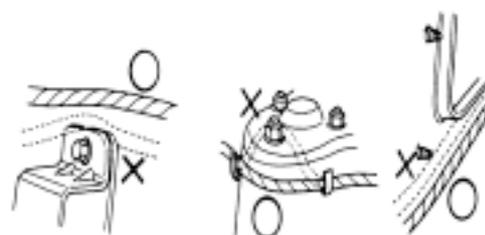
- After clamping, check each harness to make sure that it is not interfering with any moving or sliding parts.



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

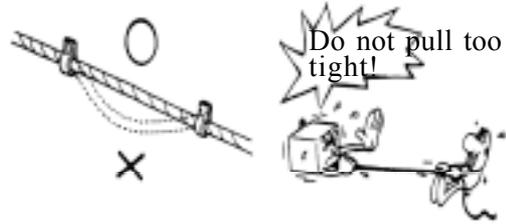


- Route wire harnesses to avoid sharp edges or corners. Avoid the projected ends of bolts and screws.
- Route wire harnesses passing through the side of bolts and screws. Avoid the projected ends of bolts and screws.



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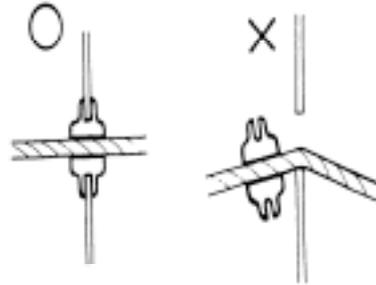
- Route harnesses so they are neither pulled tight nor have excessive slack.



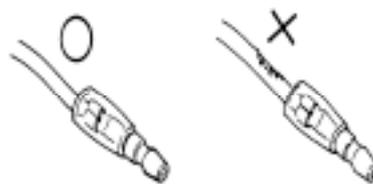
- Protect wires and harnesses with electrical tape or tube if they contact a sharp edge or corner.



- 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.

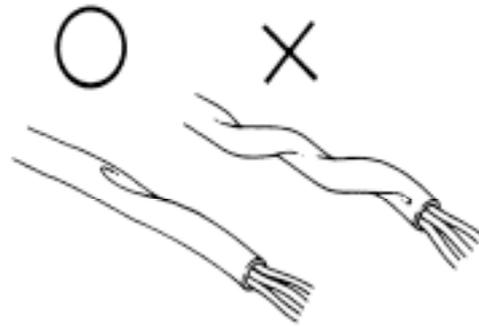


- When installing other parts, do not press or squeeze the wires.



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- 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.



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■ 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

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TORQUE VALUES

STANDARD TORQUE VALUES

Item	Torque (kgf-m)	Item	Torque (kgf-m)
5mm bolt and nut	0.45_ 0.6	4mm screw	0.2_ 0.4
6mm bolt and nut	0.8_ 1.2	5mm screw	0.35_ 0.5
8mm bolt and nut	1.8_ 2.5	6mm screw, SH bolt	0.7_ 1.1
10mm bolt and nut	3.0_ 4.0	6mm flange bolt and nut	1.0_ 1.4
12mm bolt and nut	5.0_ 6.0	8mm flange bolt and nut	2.4_ 3.0
14mm bolt and nut	6.0_ 8.0	10mm flange bolt and nut	3.5_ 4.5

Torque specifications listed below are for important fasteners.

ENGINE (Mongoose/KXR 90)

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	
L cover	8	6	1.0_ 1.4	
Cam shaft holder	4	8	1.8_ 2.2	Apply oil 
Tappet ADJ nut	2	5	0.7_ 1.1	Apply oil 
Pivot tensioner bolt	1	6	0.8_ 1.2	
Lifter tensioner bolt	2	6	1.0_ 1.4	
Lifter tensioner cap	1	6	0.35_ 0.5	
Mission case bolt	7	8	2.4_ 3.0	
Mission fill bolt	1	8	1.0_ 2.0	
Driver face nut	1	12	5.5_ 6.5	Apply oil 
Clutch outer nut	1	10	3.5_ 4.5	
Drive plate nut	1	28	5.0_ 6.0	
Oneway clutch bolt	3	6	1.0_ 1.4	Apply thread lock
Oneway clutch nut	1	24	5.0_ 6.0	
ACG flywheel nut	1	10	3.5_ 4.5	
Spark plug	1	10	1.0_ 1.4	
Drain plug	1	10	2.0_ 3.0	
Oil pump screw	1	3	0.1_ 0.3	
Head CYL stud bolt (IN pipe)	2	6	0.7_ 1.1	
Head CYL stud bolt (EX pipe)	2	8	0.7_ 1.1	
A.C.G Startor	3	5	0.8_ 1.0	
Fan	4	6	0.6_ 1.0	

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ENGINE (Mongoose/KXR 50)

Item	Q'ty	Thread dia.(mm)	Torque (kgf-m)	Remarks
Cylinder head bolt	4	6	0.8_ 1.2	
Clutch drive plate nut	1	28	5.0_ 6.0	
Drive face nut	1	10	3.5_ 4.5	
Clutch outer nut	1	10	3.5_ 4.5	
ACG flywheel nut	1	10	3.5_ 4.5	
Mission fill bolt	1	8	1.0_ 2.0	
Drive plate nut	1	28	5.0_ 6.0	
Spark plug	1	14	1.1_ 1.7	

FRAME

Item	Q'ty	Thread dia.(mm)	Torque (kgf-m)	Remarks
Steering stem nut	1	14	6.0_ 8.0	
Front Swing arm nut	4	10	4.0_ 5.0	
Front wheel nut	8	10	4.0_ 5.0	
Rear wheel nut	8	10	4.0_ 5.0	
Front wheel hub nut	2	12	5.5_ 6.5	
Rear wheel hub nut	2	14	6.0_ 8.0	
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 shock absorber upper mount bolt	1	10	3.5_ 4.5	
Rear shock absorber lower mount bolt	1	10	3.5_ 4.5	
Rear swing arm axle hub bolt	1	14	6.0_ 8.0	
Rear axle hub nut	4	12	6.0_ 8.0	
Front engine bracket bolt	2	10	4.0_ 5.0	
Rear engine bracket bolt	2	8	2.0_ 2.4	
Rear caliper bolt	2	8	2.9_ 3.5	
Brake oil bolt	2	10	3.0_ 4.0	
M/C holder	2	6	1.0_ 1.4	
Exhaust muffler lock bolt (frame)	2	8	3.2_ 3.8	
Exhaust muffler lock nut (engine)	2	8	1.8_ 2.2	
Rod-end nut	4	8	2.5_ 3.5	

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SPECIAL TOOLS (Mongoose/KXR 90)

Tool Name	Tool No.	Remarks Ref. Page
Clutch spring compressor	E034	
Bearing puller	E037	
Valve spring compressor	E040	
Oil seal & bearing installer	E014	
Tappet adjuster	E036	
Long socket wrench	E015	
Start clutch puller	E006	
Flywheel puller	E001	
Universal holder	E017	
Float level gauge		

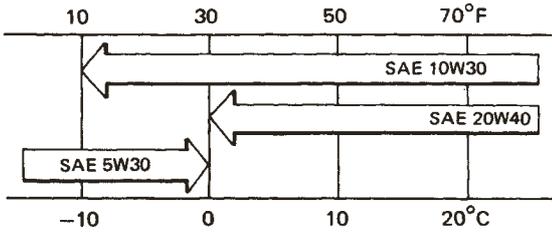
SPECIAL TOOLS (Mongoose/KXR 50)

Tool Name	Tool No.	Remarks Ref. Page
Flywheel puller	E001	
Oil seal and bearing install	E014	
Universal holder	E017	
Clutch spring compressor	E034	
Bearing puller	E037	
Crankshaft install	E016	
Crankshaft & crankcase install	E024	
Crankcase puller	E026	
Crankshaft Bearing puller	E030	
Float level gauge		

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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	<ul style="list-style-type: none"> •Genuine KYMCO Engine Oil (SAE15W-40) •API SG Engine Oil 
Transmission gear and movable parts	Gear oil: SAE90#

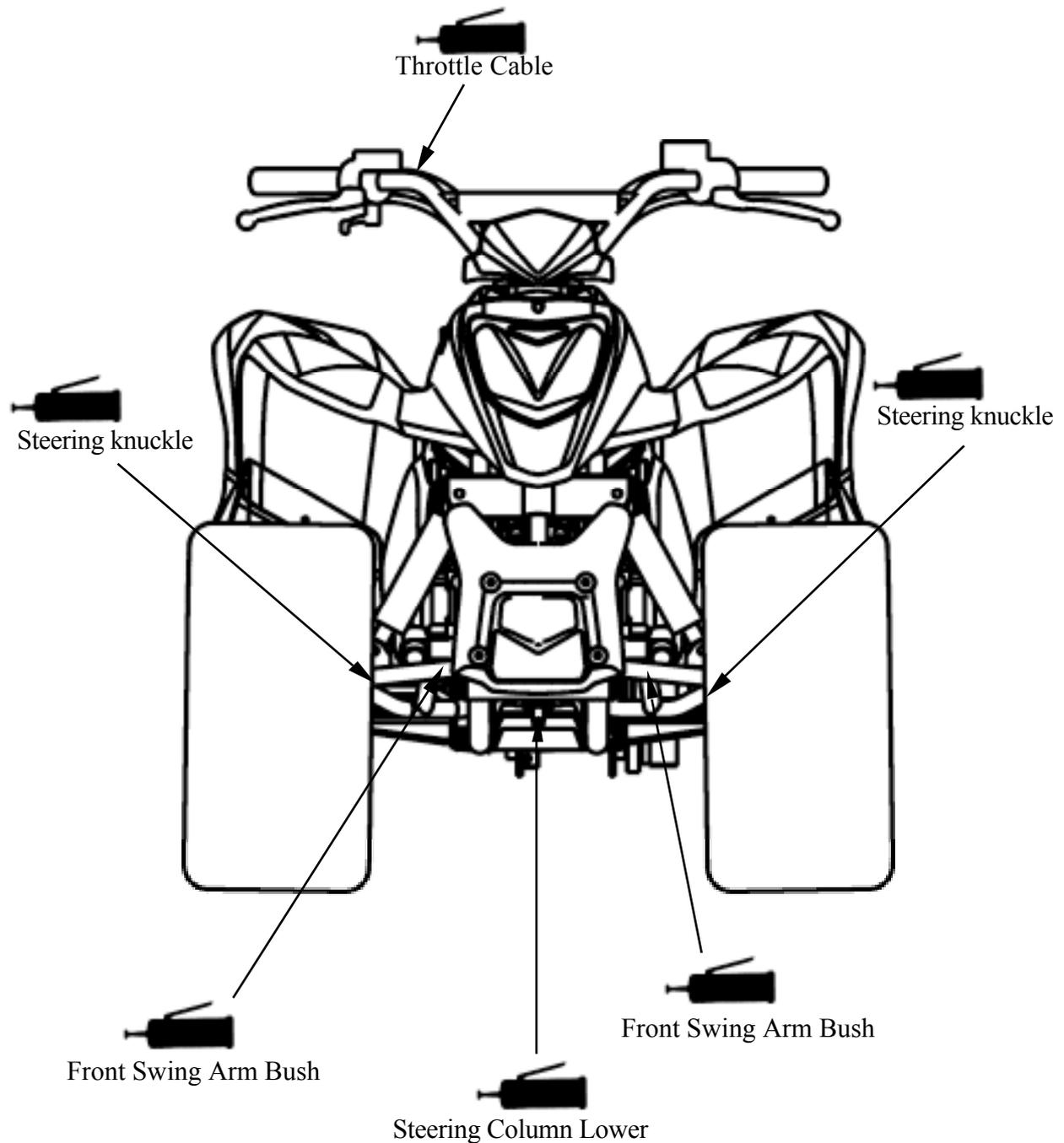
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FRAME

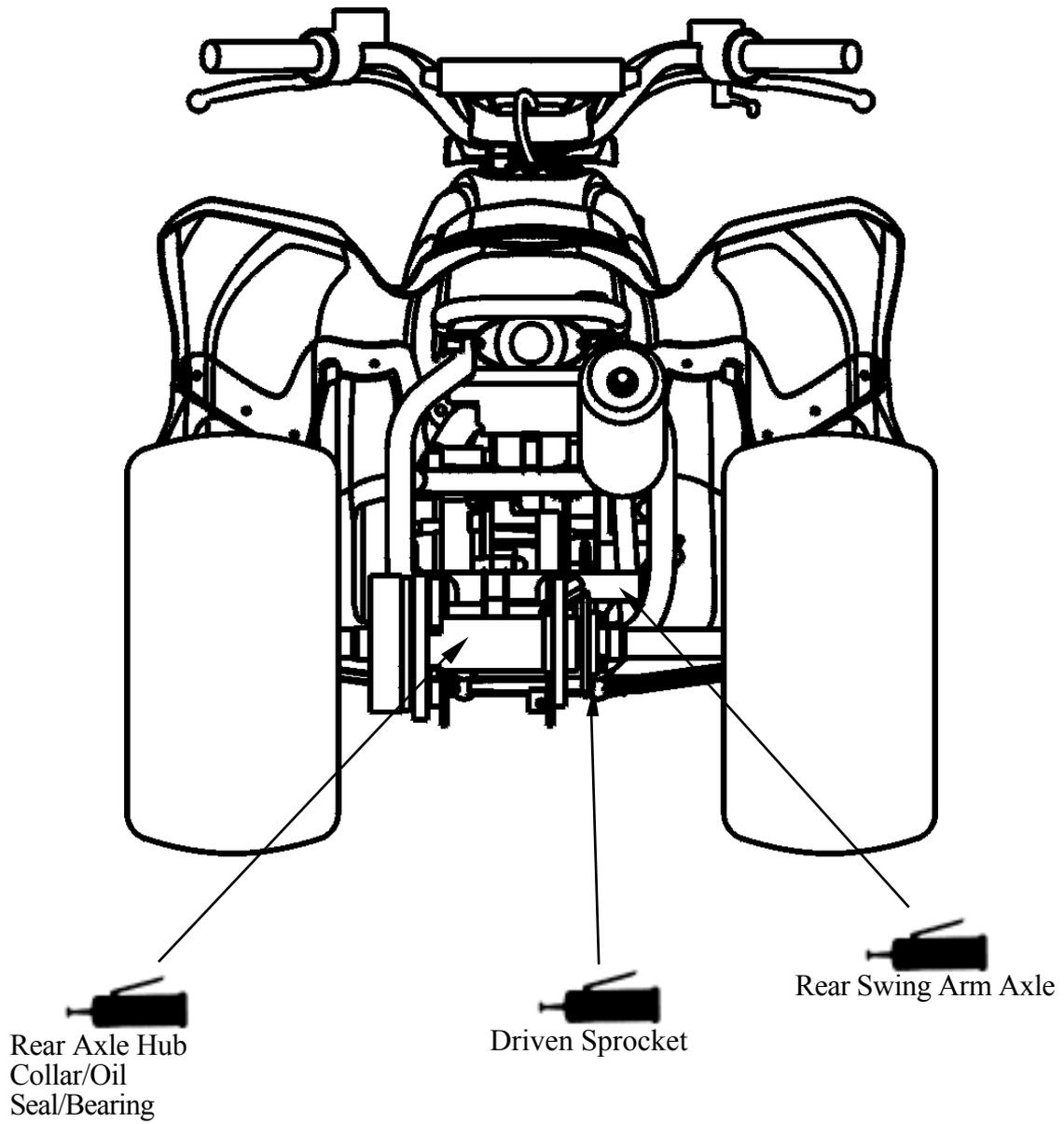
The following is the lubrication points for the frame.

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 ATV.

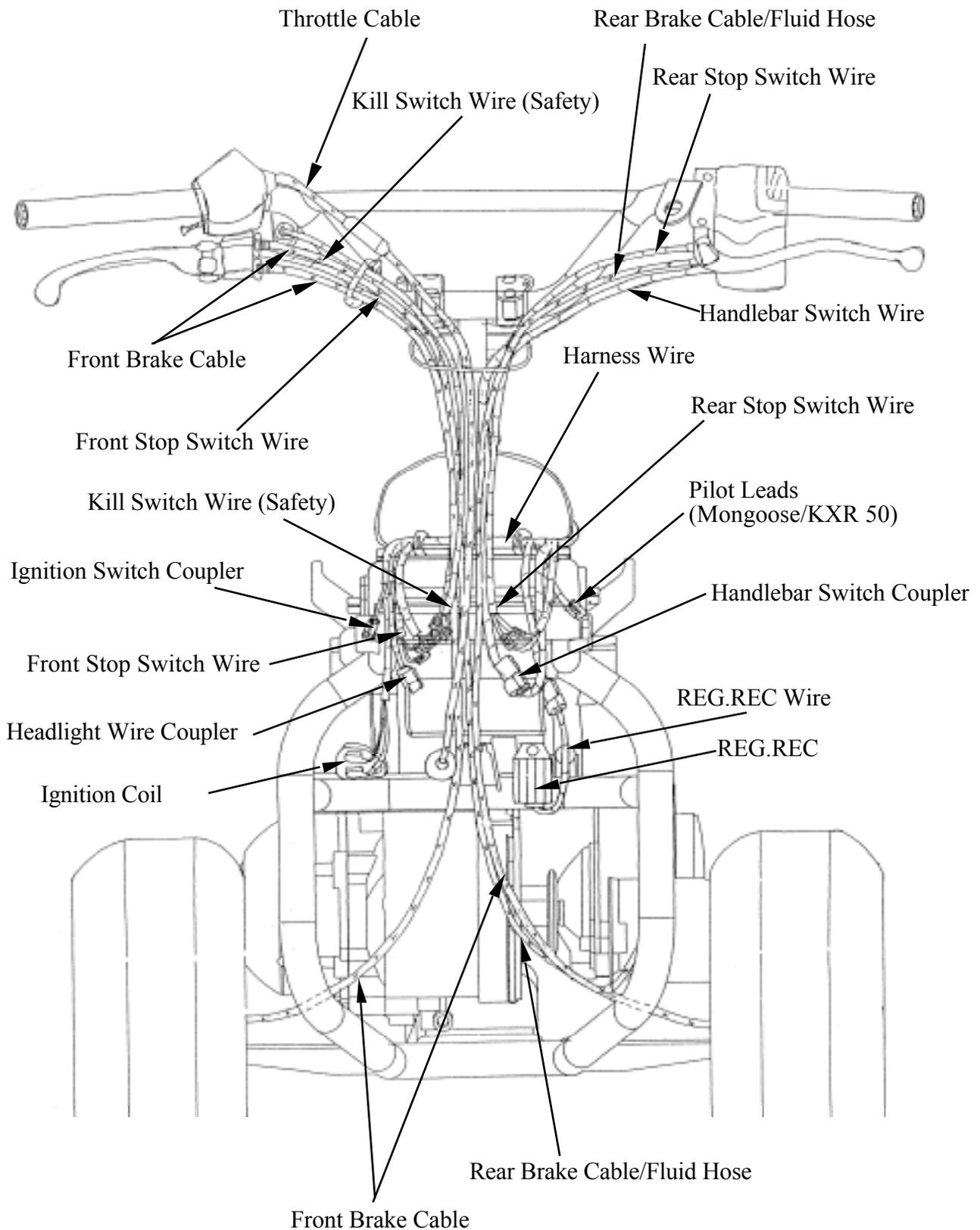


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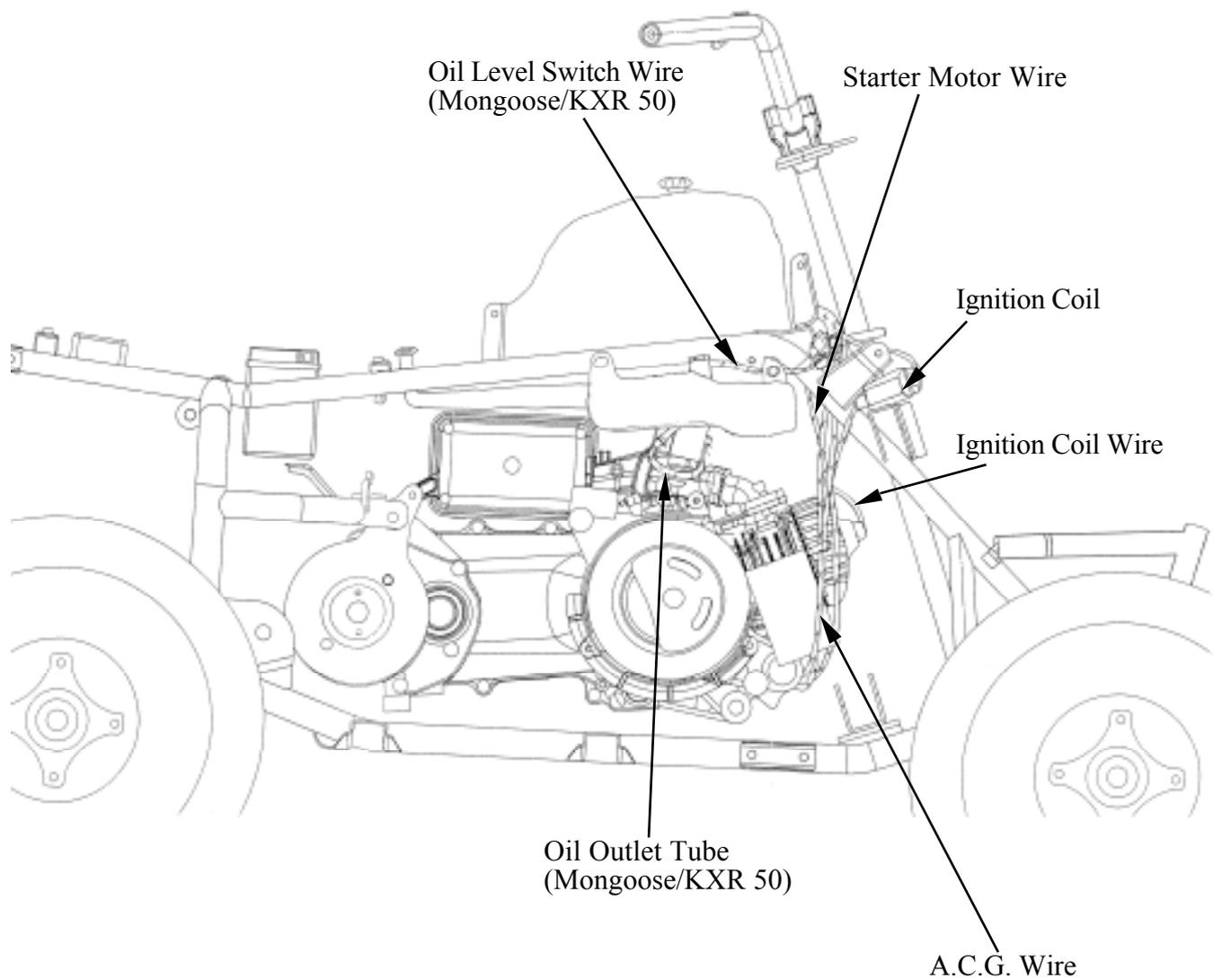


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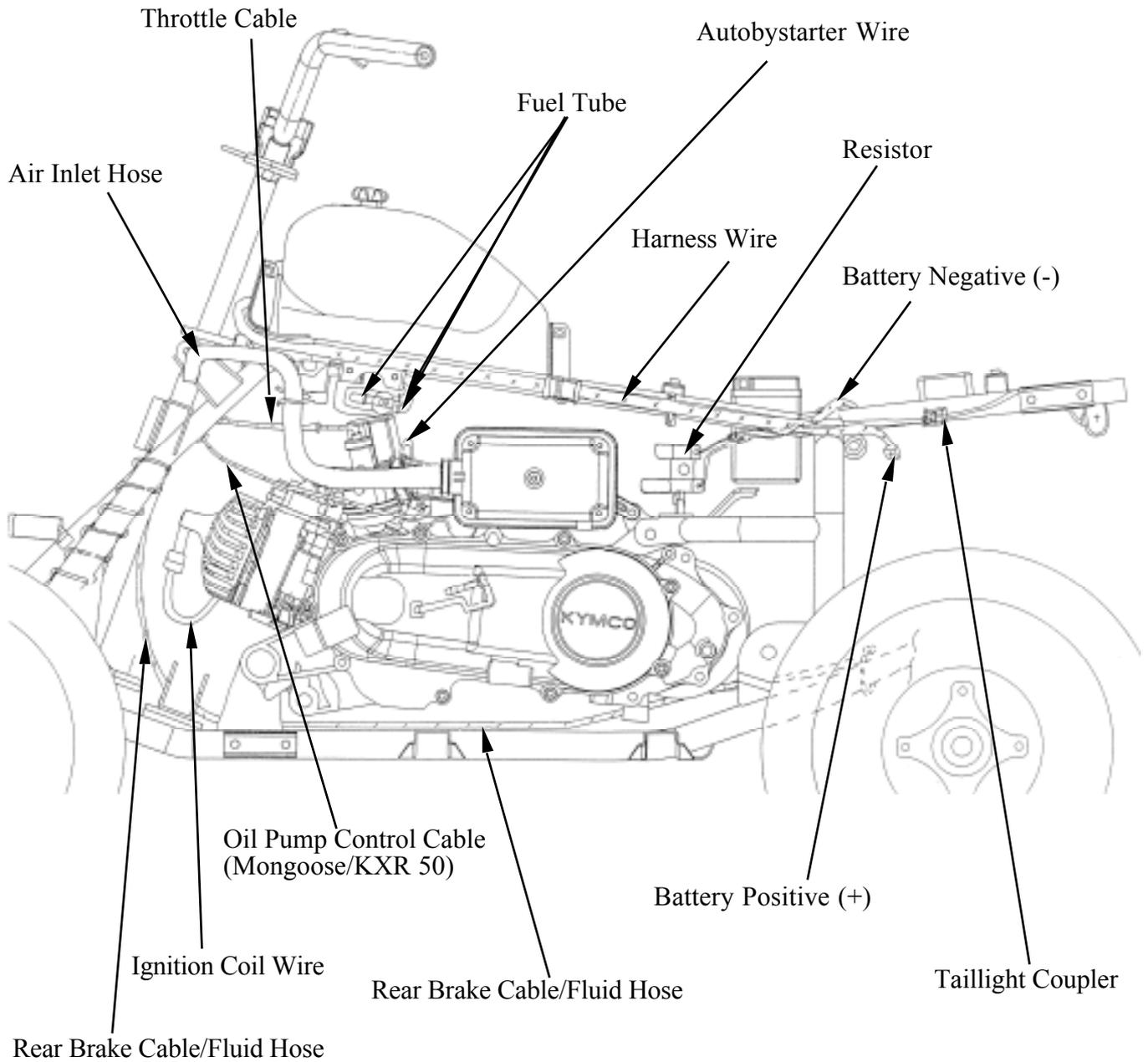
CABLE & HARNESS ROUTING



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WIRING DIAGRAM (Mongoose/KXR 90 OFF ROAD)

COLOR COMB GROUND MARKING

B	BLACK	BR	BROWN
Y	YELLOW	O	ORANGE
L	BLUE	SB	SKY-BLUE
G	GREEN	LD	LIGHT GREEN
R	RED	P	PINK
W	WHITE	DM	DIRTY

DIMMER SW

HL	LD	HI	RE	
COLOUR	Y	RE	L	P

START SW

PHSE	ST	E	
PUSH	COLOUR	Y/R	G

COMB SW

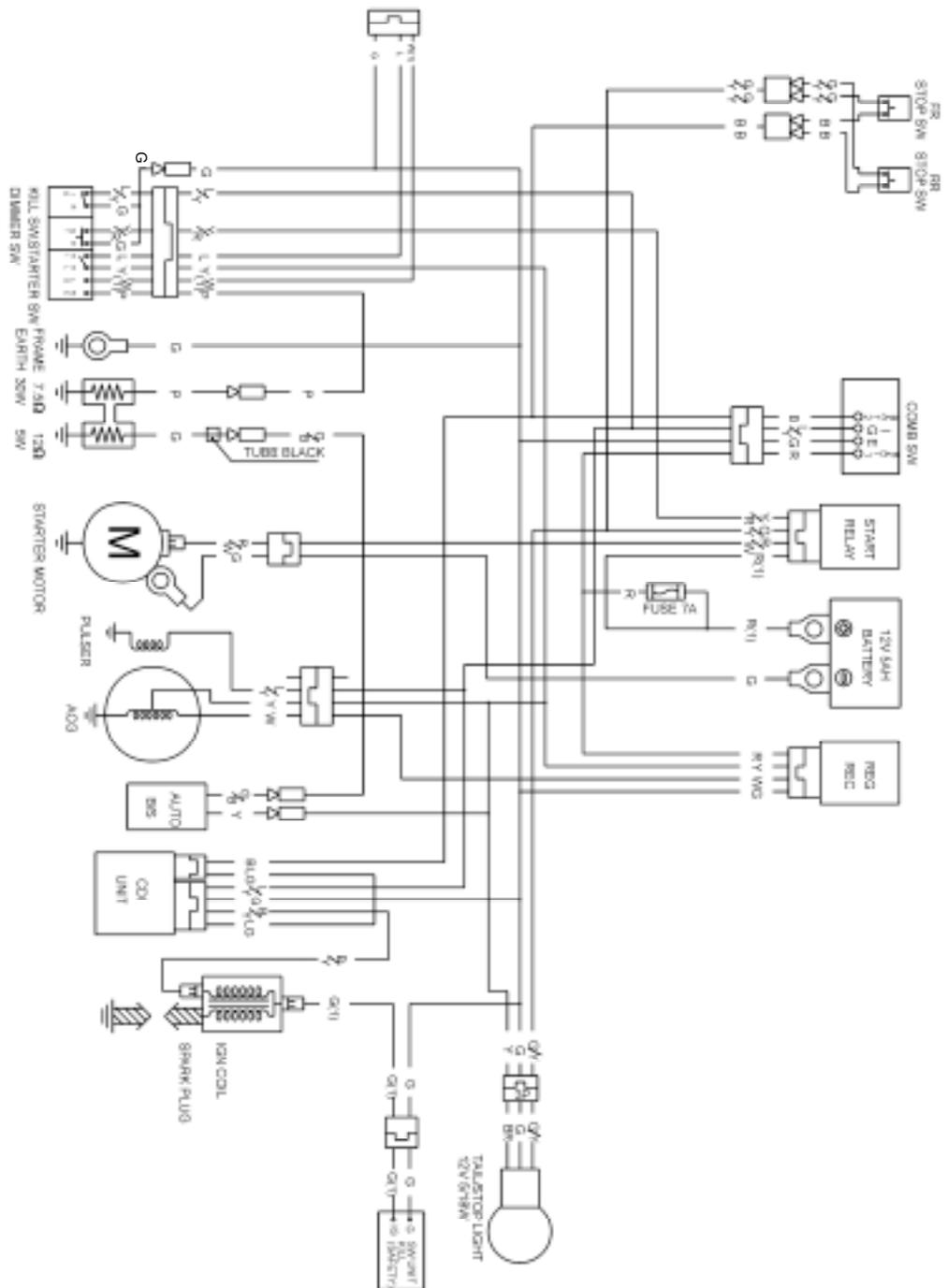
LOCK	LOCK	LOCK	LOCK		
OFF	ON	ON	ON		
COLOUR	H	L	Y	G	B

SWITCH KILL (START)

E	NS	
COLOUR	G	LD

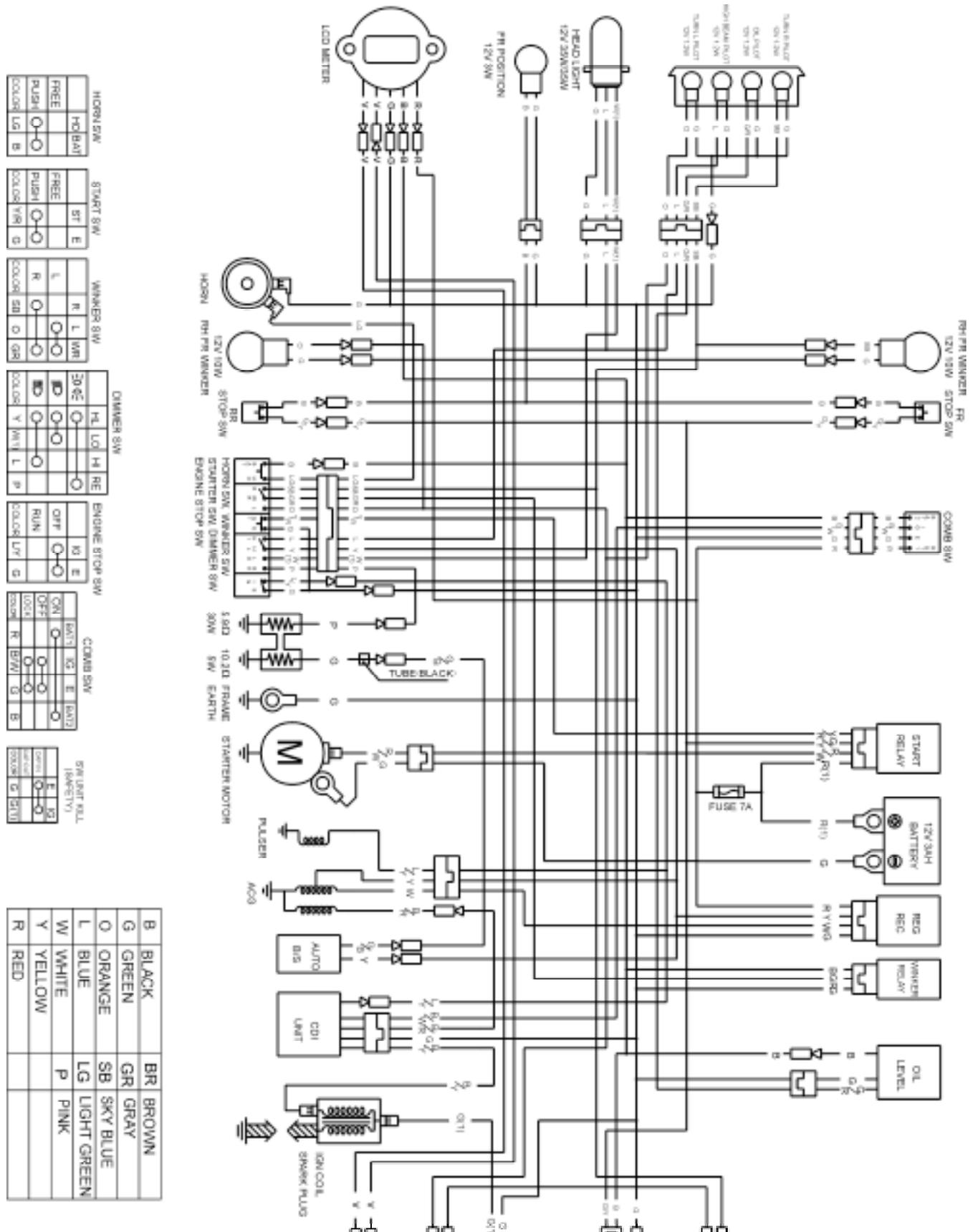
KILL SW

E	NS	
OFF	ON	
COLOUR	G	L/Y



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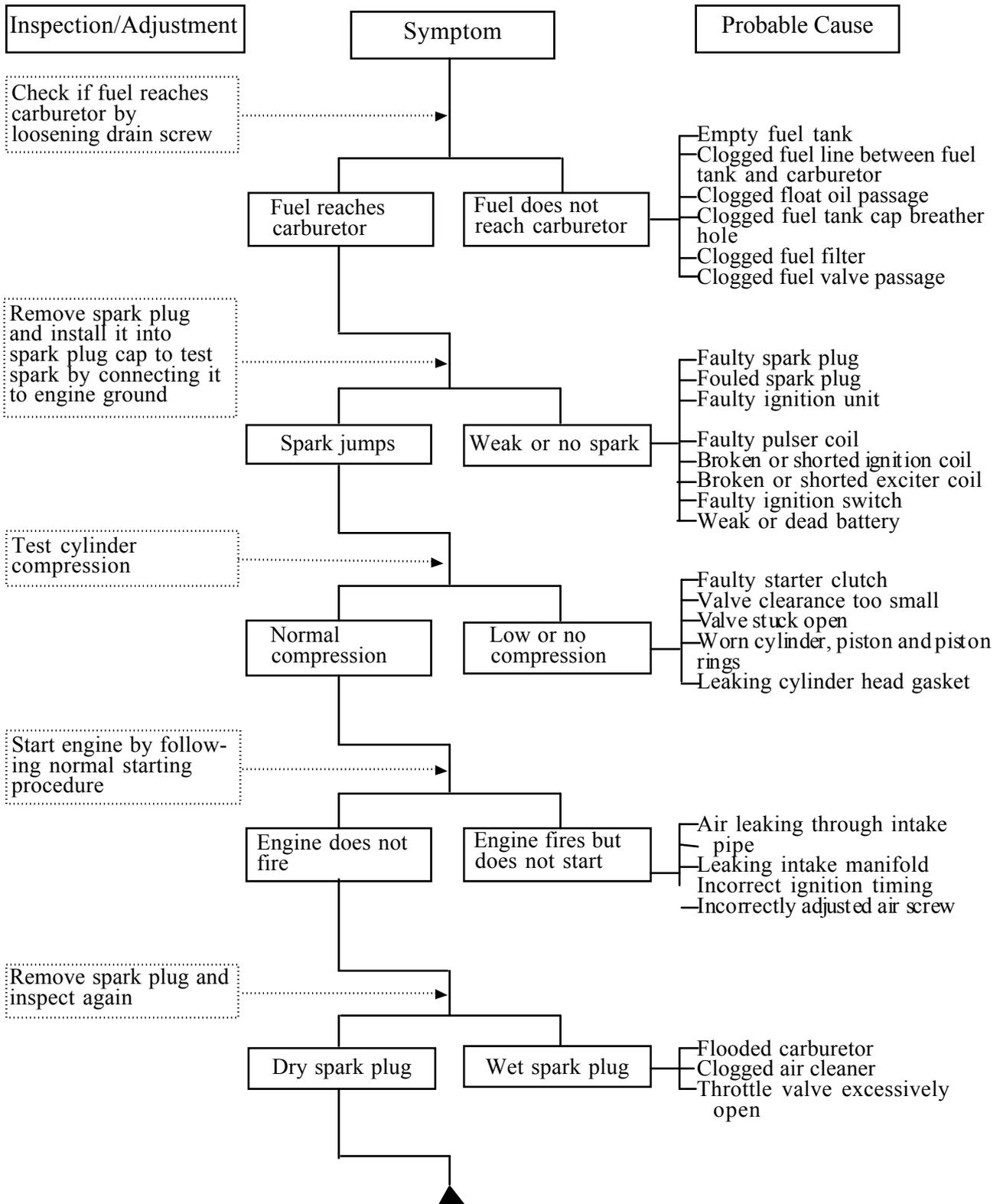
WIRING DIAGRAM (KXR 50 ON ROAD)



1. GENERAL INFORMATION

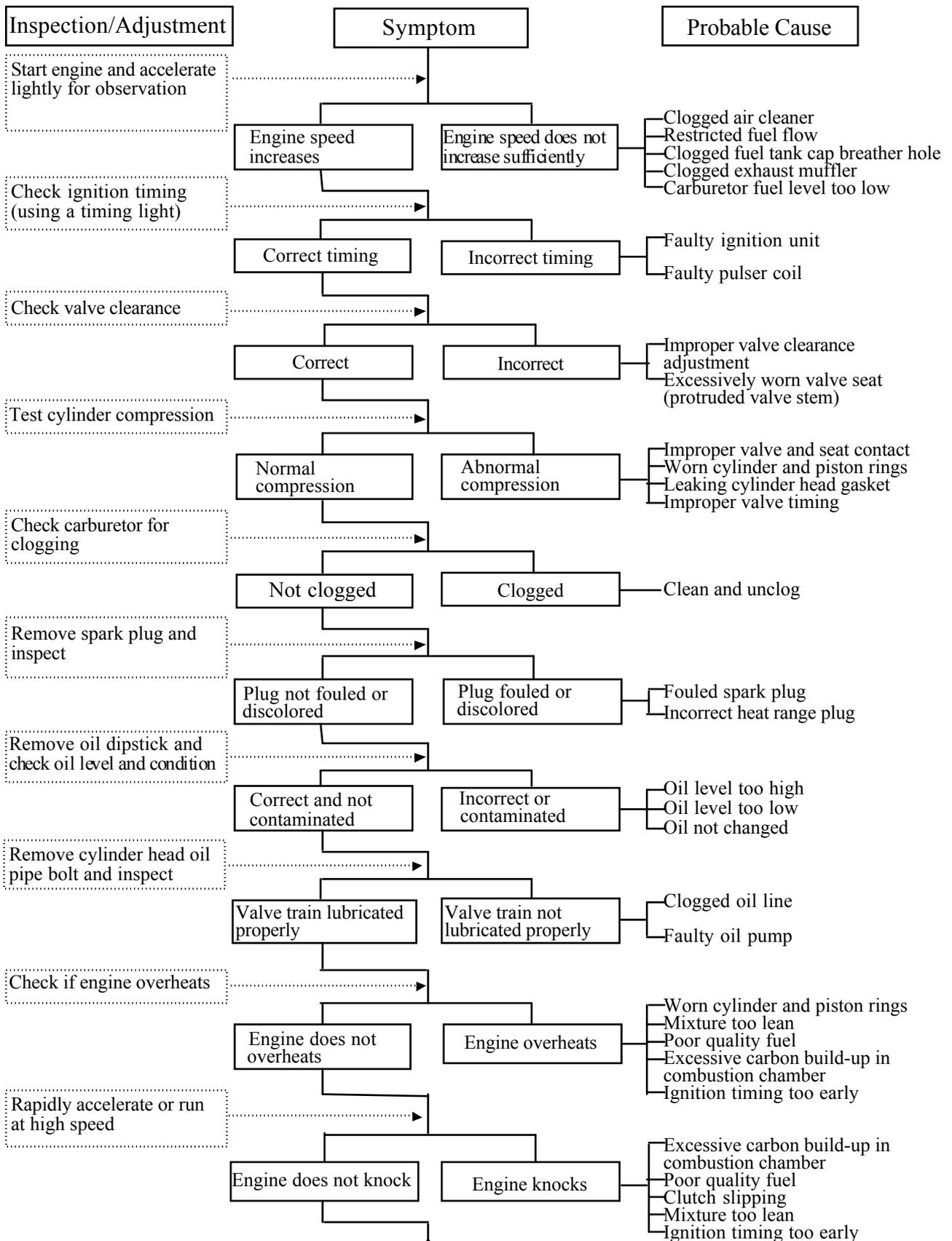
TROUBLESHOOTING

ENGINE WILL NOT START OR IS HARD TO START



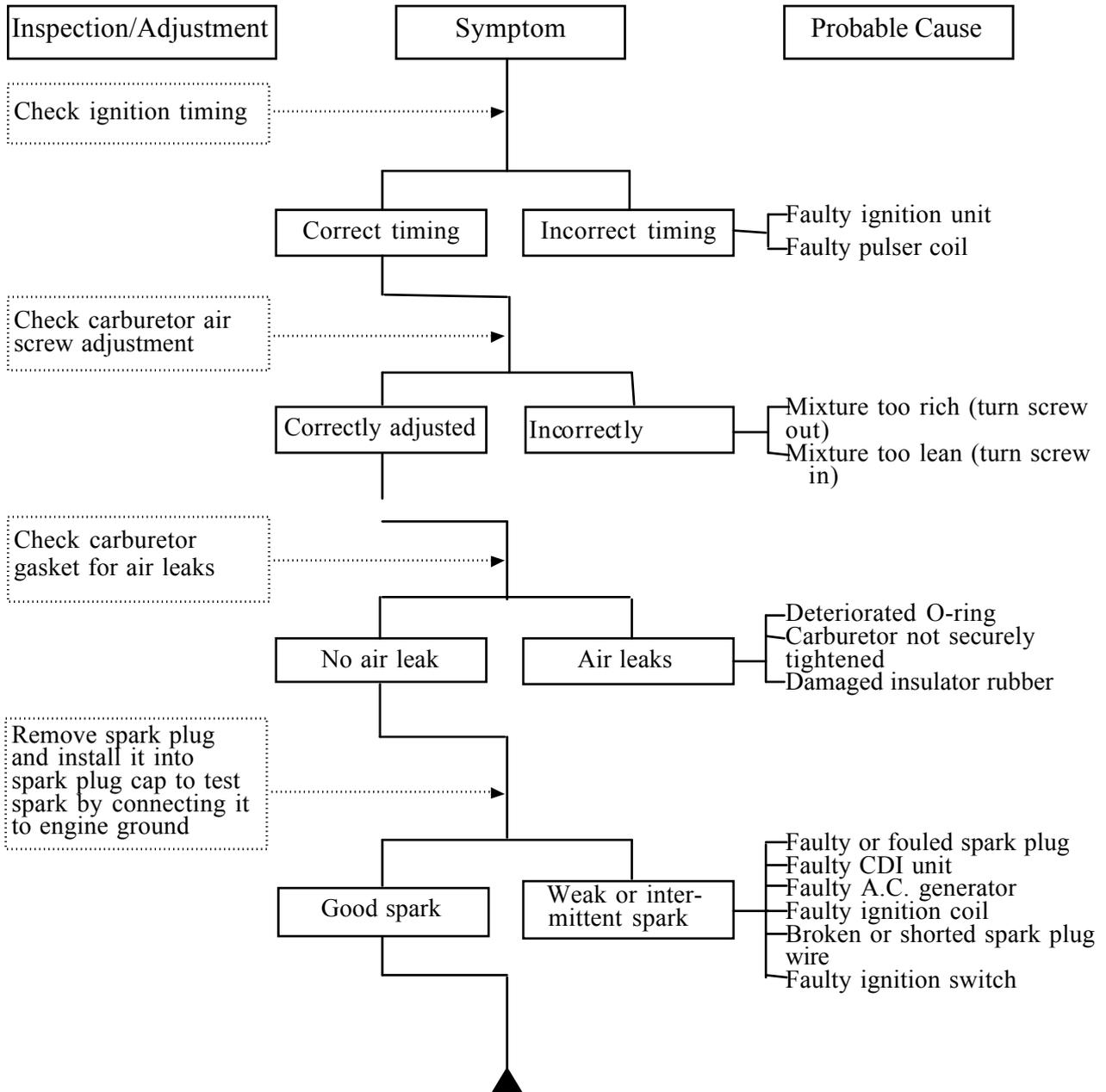
1. GENERAL INFORMATION

ENGINE LACKS POWER



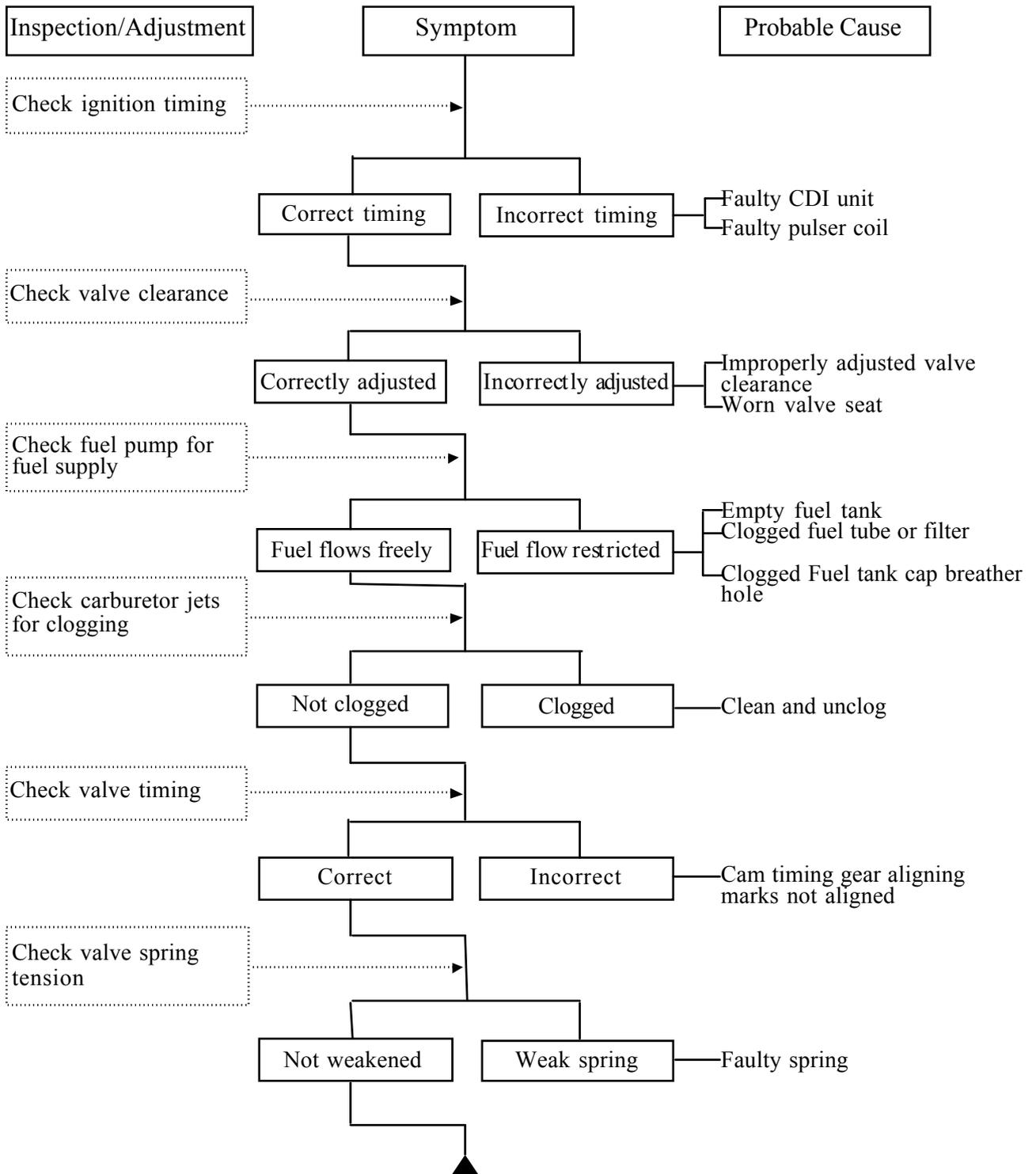
1. GENERAL INFORMATION

POOR PERFORMANCE (ESPECIALLY AT IDLE AND LOW SPEEDS)



1. GENERAL INFORMATION

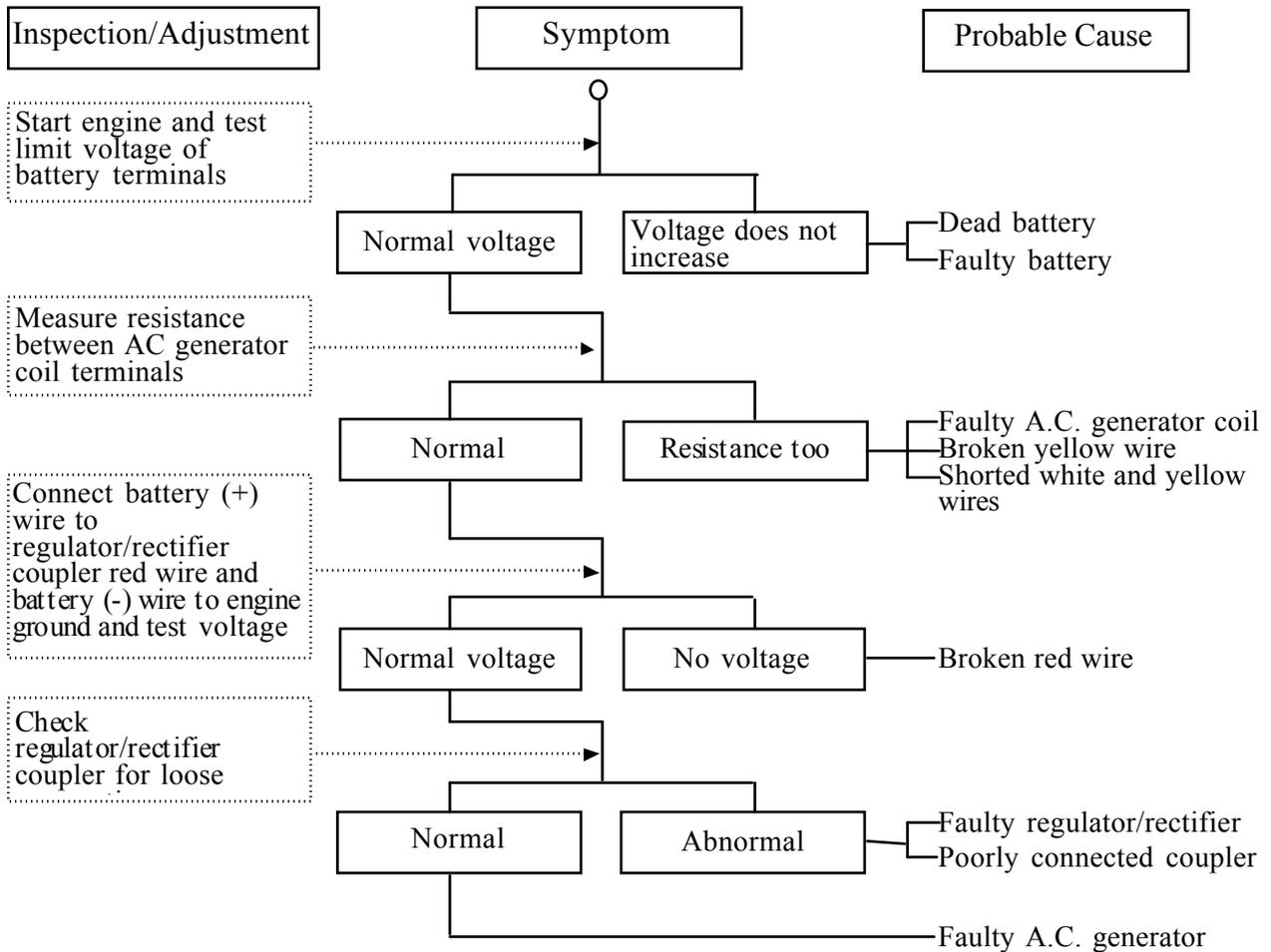
POOR PERFORMANCE (AT HIGH SPEED)



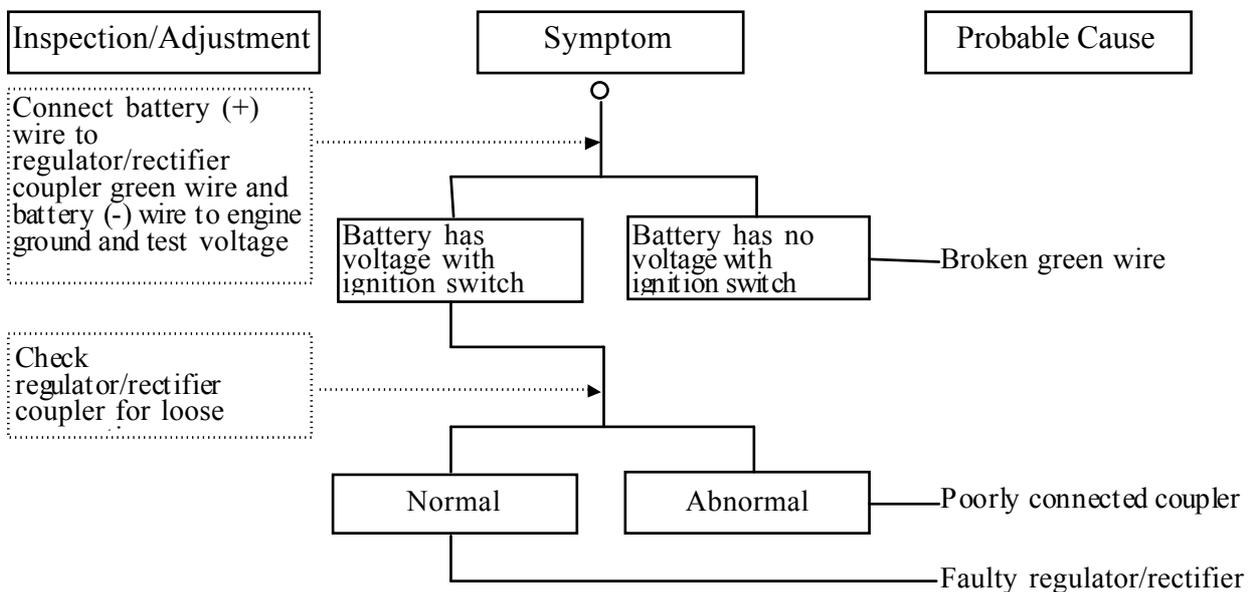
1. GENERAL INFORMATION

POOR CHARGING (BATTERY OVER DISCHARGING OR OVERCHARGING)

Undercharging



Overcharging



1. GENERAL INFORMATION

NO SPARK AT SPARK PLUG

