

1. GENERAL INFORMATION

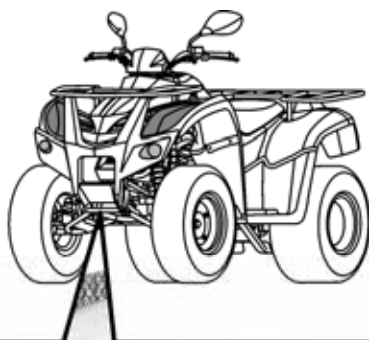
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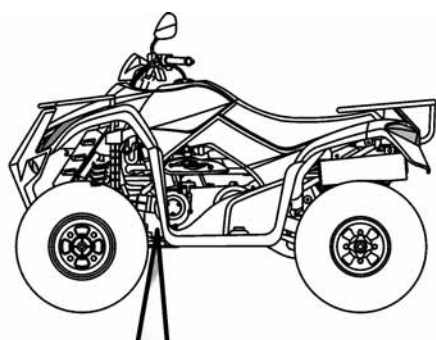
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1. GENERAL INFORMATION

SERIAL NUMBER



(1) Location of Frame Serial Number



(2) Location of Engine Serial Number

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SPECIFICATIONS

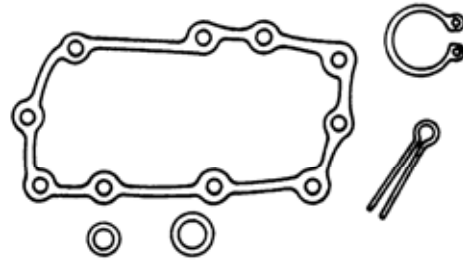
Name & Model No.			LB50AD/AA			
Motorcycle Name & Type			MXU			
Overall length			1810 mm (72.4 in)			
Overall width (mm)			1050 mm (42 in)			
Overall height (mm)			1110 mm (44.4 in)			
Wheel base (mm)			1170 mm (46.8 in)			
Engine type			O.H.C.			
Displacement			249 cm ³ (15.2 cu-in)			
Fuel Used			92# nonleaded gasoline			
Dry weight	Front wheel		112 kg (246 lbs)			
	Rear wheel		102 kg (224 lbs)			
	Total		214 kg (471 lbs)			
Curb weight	Front wheel		116 kg (255 lbs)			
	Rear wheel		110 kg (242 lbs)			
	Total		226 kg (497 lbs)			
Tires	Front wheel		22*7-10			
	Rear wheel		22*10-10			
Ground clearance			125 mm (5 in)			
Min. turning radius			2900 mm (116 in)			
Engine	Starting system		Electric/Recoil 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)		72.7 x 60 mm (2.9 x 2.4 in)			
	Compression ratio		10.3:1			
	Compression pressure		16 kg/cm ² (1600kPa, 227 psi)			
	Port timing	Intake (1mm)	Open	8.1° BTDC		
			Close	41° ABDC		
		Exhaust (1mm)	Open	37° BBDC		
			Close	7.9° ATDC		
	Valve clearance (cold)	Intake		0.1 mm (0.004 in)		
		Exhaust		0.1 mm (0.004 in)		
	Idle speed (rpm)			1500rpm		
	Lubrication System	Lubrication type		Forced pressure & Wet sump		
		Oil pump type		Trochoid		
		Oil filter type		Full-flow filtration		
		Oil capacity		1.6 L (1.4 Imp qt, 1.7 Us qt)		
		Oil exchanging capacity		1.4 L (1.23 Imp qt, 1.48 Us qt)		
	Cooling Type			Liquid cooled		

Fuel System	Air cleaner type & No			Wet type element	
	Fuel capacity			12.5 L (2.63 Imp gal, 3.25 US gal)	
	Carburetor	Type		Piston valve	
		Main jet NO.		98	
		Venturi dia.		ϕ22 mm (ϕ0.88 in)	
		Throttle type		PISTON	
Electrical Equipment	Ignition System	Type		Full transistor digital ignition	
		Ignition timing		5°BTDC/1000rpm	
		Contact breaker		Non-contact point type	
		Spark plug		DPR7EA-9	
		Spark plug gap		0.6~0.7mm (0.002~0.003 in)	
	Battery	Capacity		12V12AH	
Power Drive System	Clutch	Type		Dry, centrifugal automatic	
		Transmission Gear	Type		Helical gear/spur gear
	Operation		Automatic centrifugal Type		
	Reduction Gear	Type		Chain drive	
		Reduction ratio	1st	26.5	
			2nd	10.02	
	Reverse ratio			50.9	
Moving Device	FR/RR tire rolling circumference		1759/1759 mm (71.8/71.8 in)		
	Tire pressure	Front	0.28 kg/cm ² (28 Kpa, 3.2 psi)		
		Rear			
	Turning angle	Left	40°		
		Right	40°		
Brake system type		Rear	Disk brake		
		Front	Disk brake		
Damping Device	Suspension type		Front	Double wishbone	
			Rear	Link suspension	
Frame type			Double cradle		

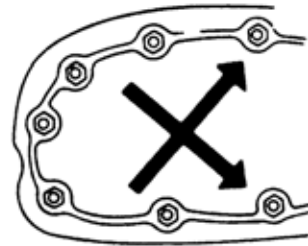
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SERVICE PRECAUTIONS

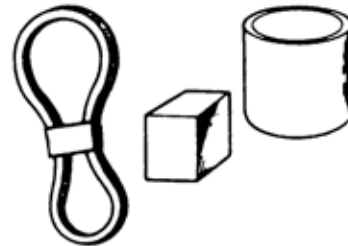
- Make sure to install new gaskets, O-rings, circlips, cotter pins, etc. when reassembling.



- 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.

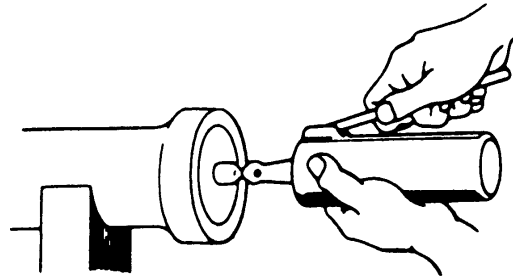


- After disassembly, clean removed parts. Lubricate sliding surfaces with engine oil before reassembly.

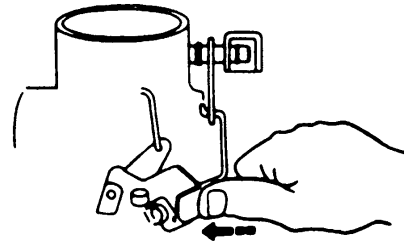


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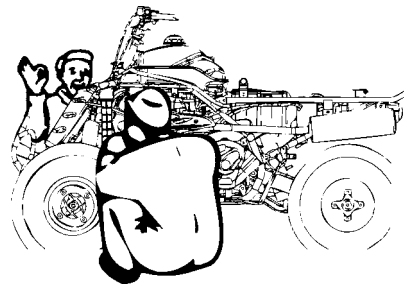
- Apply or add designated greases and lubricants to the specified lubrication points.



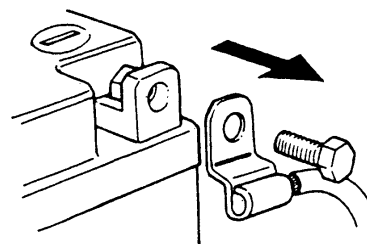
- After reassembly, check all parts for proper tightening and operation.



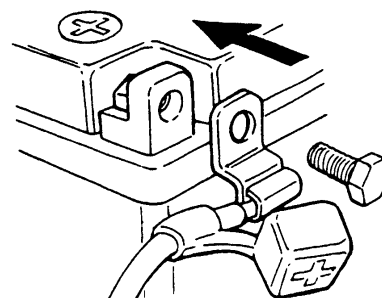
- When two persons work together, pay attention to the mutual working safety.



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

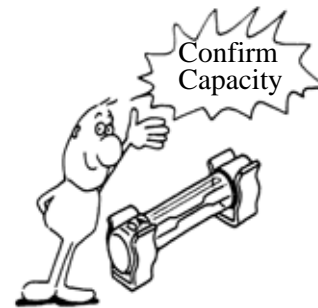


- After operation, check all connecting points, fasteners, and lines for proper connection and installation.
- When connecting the battery, the positive (+) terminal must be connected first.
- After connection, apply grease to the battery terminals.
- Terminal caps shall be installed securely.



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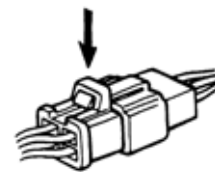
- If the fuse is burned out, find the cause and repair it. Replace it with a new one according to the specified capacity.



- After operation, terminal caps shall be installed securely.



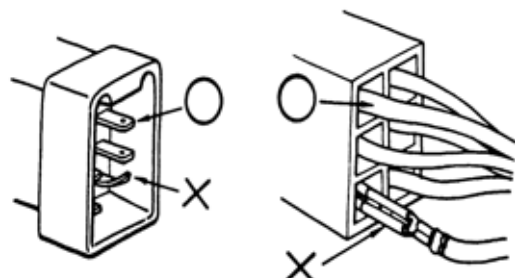
- When taking out the connector, the lock on the connector shall be released before operation.



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

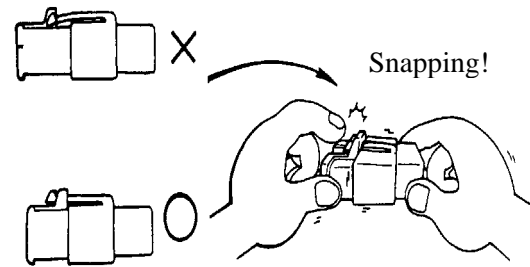


- Check if any connector terminal is bending, protruding or loose.

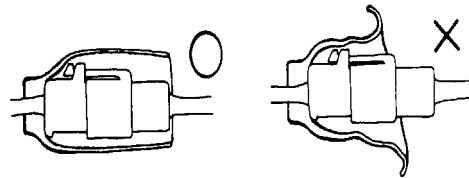


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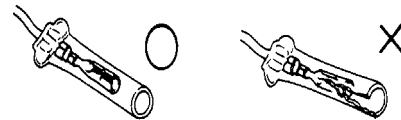
- The connector shall be inserted completely.
- If the double connector has a lock, lock it at the correct position.
- Check if there is any loose wire.



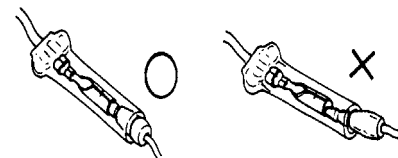
- Before connecting a terminal, check for damaged terminal cover or loose negative terminal.



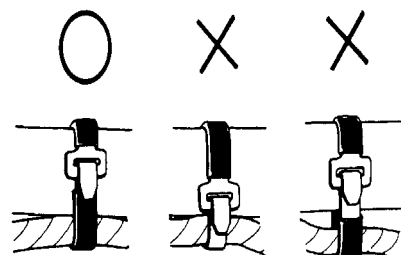
- Check the double connector cover for proper coverage and installation.



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

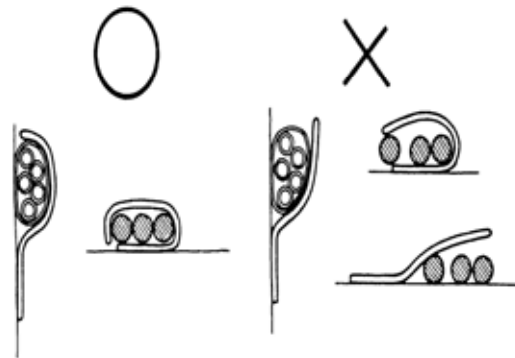


- Secure wire harnesses to the frame with their respective wire bands at the designated locations. Tighten the bands so that only the insulated surfaces contact the wire harnesses.



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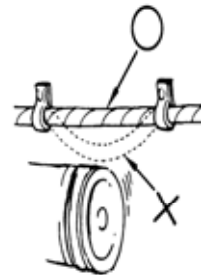
- After clamping, check each wire to make sure it is secure.



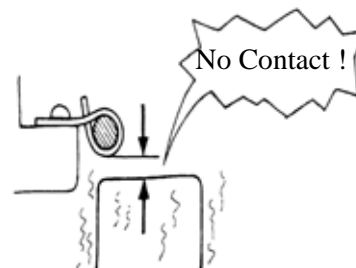
- Do not squeeze wires against the weld or its clamp.



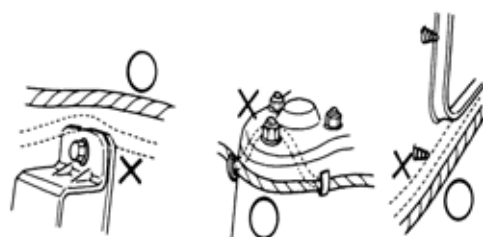
- After clamping, check each harness to make sure that it is not interfering with any moving or sliding parts.



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

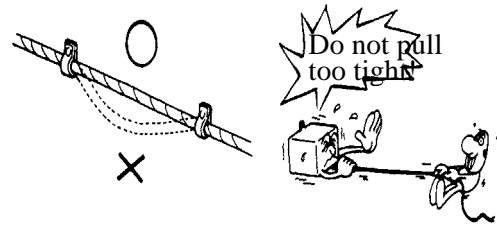


- Route wire harnesses to avoid sharp edges or corners. Avoid the projected ends of bolts and screws.
- Route wire harnesses passing through the side of bolts and screws. Avoid the projected ends of bolts and screws.

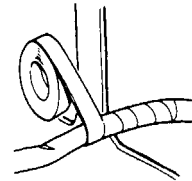


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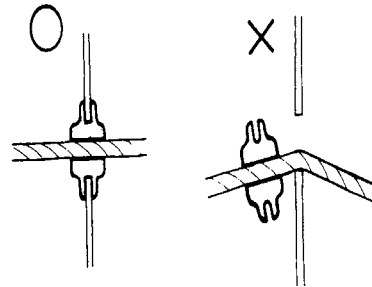
- Route harnesses so they are neither pulled tight nor have excessive slack.



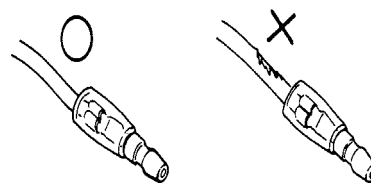
- Protect wires and harnesses with electrical tape or tube if they contact a sharp edge or corner.



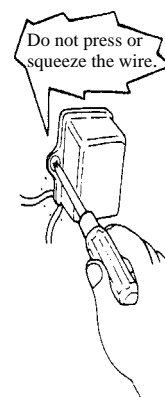
- When rubber protecting cover is used to protect the wire harnesses, it shall be installed securely.



- 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.

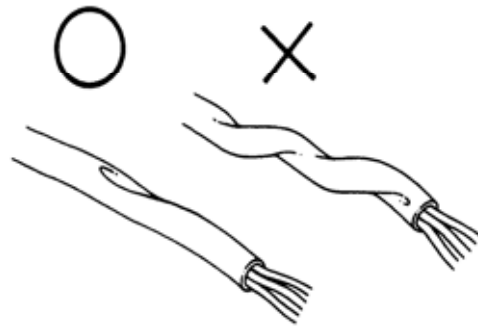


- When installing other parts, do not press or squeeze the wires.

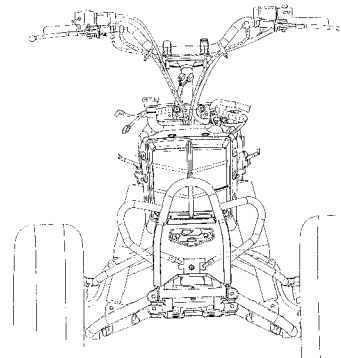


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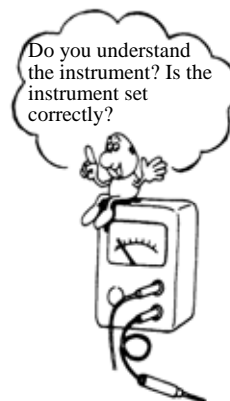
- After routing, check that the wire harnesses are not twisted or kinked.



- 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.



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



: Apply grease for lubrication.



: Transmission Gear Oil (90#)



: Use special tool.



: Caution



: Warning

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TORQUE VALUES

STANDARD TORQUE VALUES

Item	Torque kgf-m (N-m, lbf-ft)	Item	Torque kgf-m (N-m, lbf-ft)
5mm bolt and nut	0.5 (5, 3.6)	4mm screw	0.3 (3, 2.2)
6mm bolt and nut	1 (10, 7.2)	5mm screw	0.4 (4, 2.9)
8mm bolt and nut	2.2 (22, 16)	6mm screw, SH bolt	0.9 (9, 6.5)
10mm bolt and nut	3.5 (35, 25)	6mm flange bolt and nut	1.2 (12, 9)
12mm bolt and nut	5.5 (55, 40)	8mm flange bolt and nut	2.7 (27, 20)
14mm bolt and nut	7 (70, 50)	10mm flange bolt and nut	4 (40, 29)

Torque specifications listed below are for important fasteners.

ENGINE

Item	Q'ty	Thread dia. (mm)	Torque kgf-m (N-m, lbf-ft)	Remarks
Stud bolt	4	8	0.9 (9, 6.5)	
Oil filter screen cap	1	30	1.5 (15, 11)	
Seat ball stopper bolt	1	14	4.8 (48, 35)	
L cover bolt	10	6	1.2 (12, 8.6)	
Cam shaft holder nut	4	8	2.5 (25, 18)	Apply oil
Tappet ADJ nut	2	5	0.9 (9, 6.5)	Apply oil
Pivot tensioner bolt	1	8	1 (10, 7.2)	
Lifter tensioner bolt	2	6	1.2 (12, 8.6)	
Lifter tensioner cap	1	6	0.4 (4, 2.9)	
Mission case bolt	9	8	2.7 (27, 20)	
Mission fill bolt	1	12	2.5 (25, 18)	
Driver face nut	1	14	9.5 (95, 68)	Apply oil
Clutch outer nut	1	12	5.5 (55, 40)	
Drive plate nut	1	28	5.5 (55, 40)	
Oneway clutch bolt	3	8	2.0 (20, 14)	Apply thread lock
ACG flywheel nut	1	14	6.0 (60, 43)	
Spark plug	1	12	1.8 (18, 13)	
Water pump impeller	1	7	1.2 (12, 8.6)	
Drain plug	1	12	2.5 (25, 18)	
Oil pump screw	1	3	0.15 (15, 10.8)	
Head CYL stud bolt (IN pipe)	2	6	0.9 (9, 6.5)	
Head CYL stud bolt (EX pipe)	2	8	0.9 (9, 6.5)	
A.C.G Startor	3	5	0.9 (9, 6.5)	

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FRAME

Item	Q'ty	Thread dia. (mm)	Torque Kgf-m (N-m, lbf-ft)	Remarks
Steering stem nut	1	14	7 (70, 50)	
Front swing arm nut	8	10	4.5 (45, 32)	
Front wheel nut	8	12	4.5 (45, 32)	
Rear wheel nut	8	12	4.5 (45, 32)	
Front wheel hub nut	2	14	7 (70, 50)	
Rear wheel hub nut	2	16	10 (100, 72)	
Front shock absorber upper mount bolt	2	10	4 (40, 29)	
Front shock absorber lower mount bolt	2	10	4 (40, 29)	
Rear shock absorber upper mount bolt	1	10	4 (40, 29)	
Rear shock absorber lower mount bolt	1	10	4 (40, 29)	
Rear swing arm axle	1	14	7 (70, 50)	
Rear hub nut	2	10	4 (40, 29)	
Rear wheel shaft nut	2	40	12 (120, 86)	
Rear engine bracket upper bolt	1	10	4 (40, 29)	
Rear engine bracket lower bolt	1	10	4 (40, 29)	
Engine hanger bracket bolt	1	10	4 (40, 29)	
Exhaust muffler lock bolt (frame)	2	8	4 (40, 29)	
Exhaust muffler lock nut (engine)	2	8	2 (20, 14.4)	

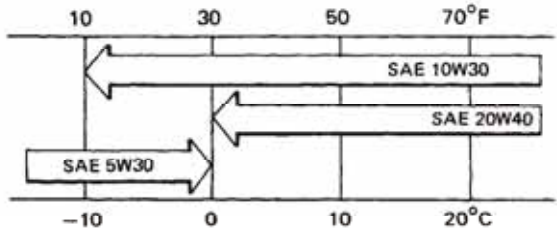
SPECIAL TOOLS

Tool Name	Tool No.	Remarks Ref. Page
Flywheel puller	E003	
Valve adjuster	E012	
Valve spring compressor	E040	
Oil seal and bearing install	E014	
Universal holder	E017	
Flywheel holder	E021	
Clutch spring compressor	E034	
Bearing puller	E037	
Nut wrench	F010	
Ball joint remover	F012	

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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#

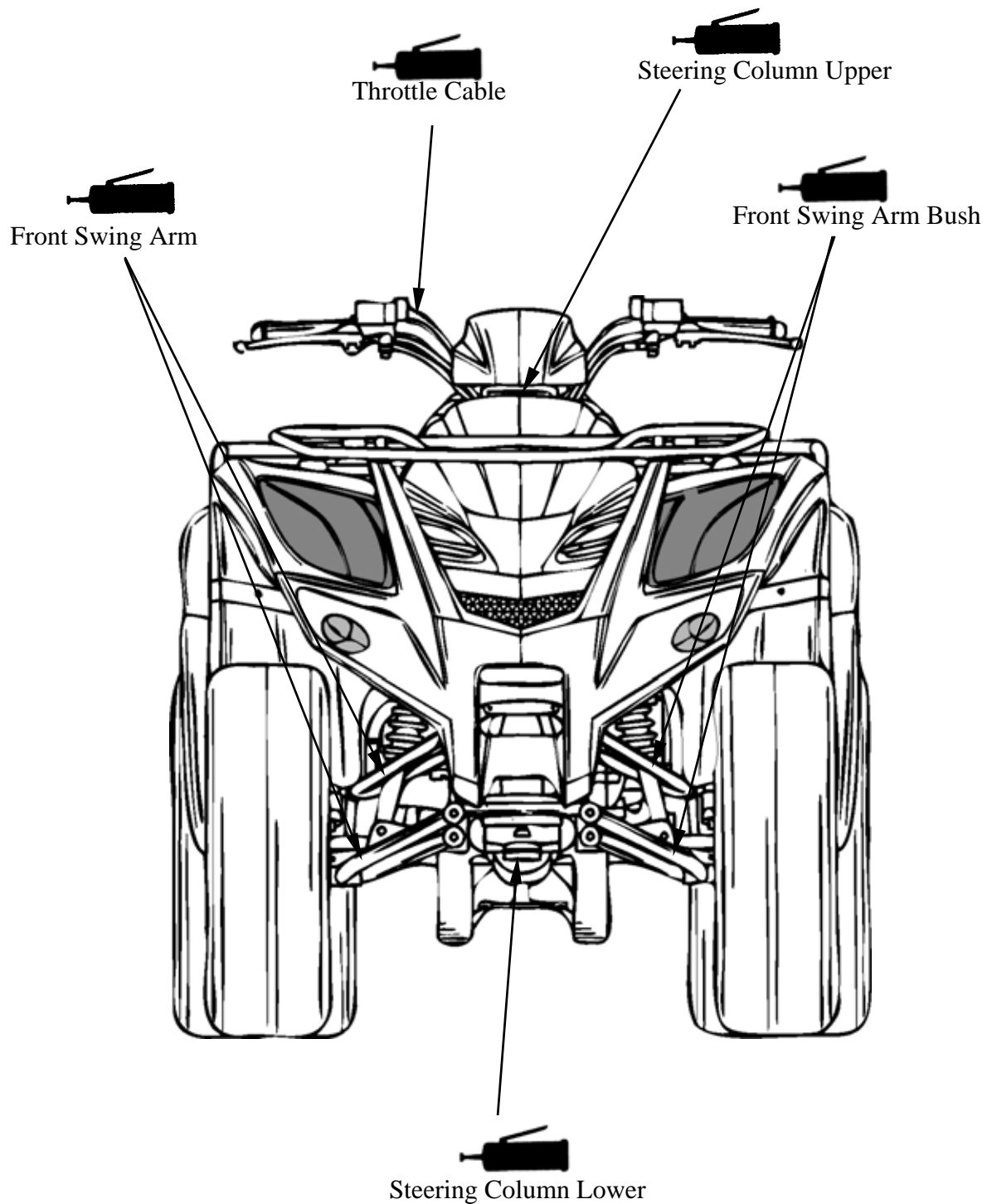
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FRAME

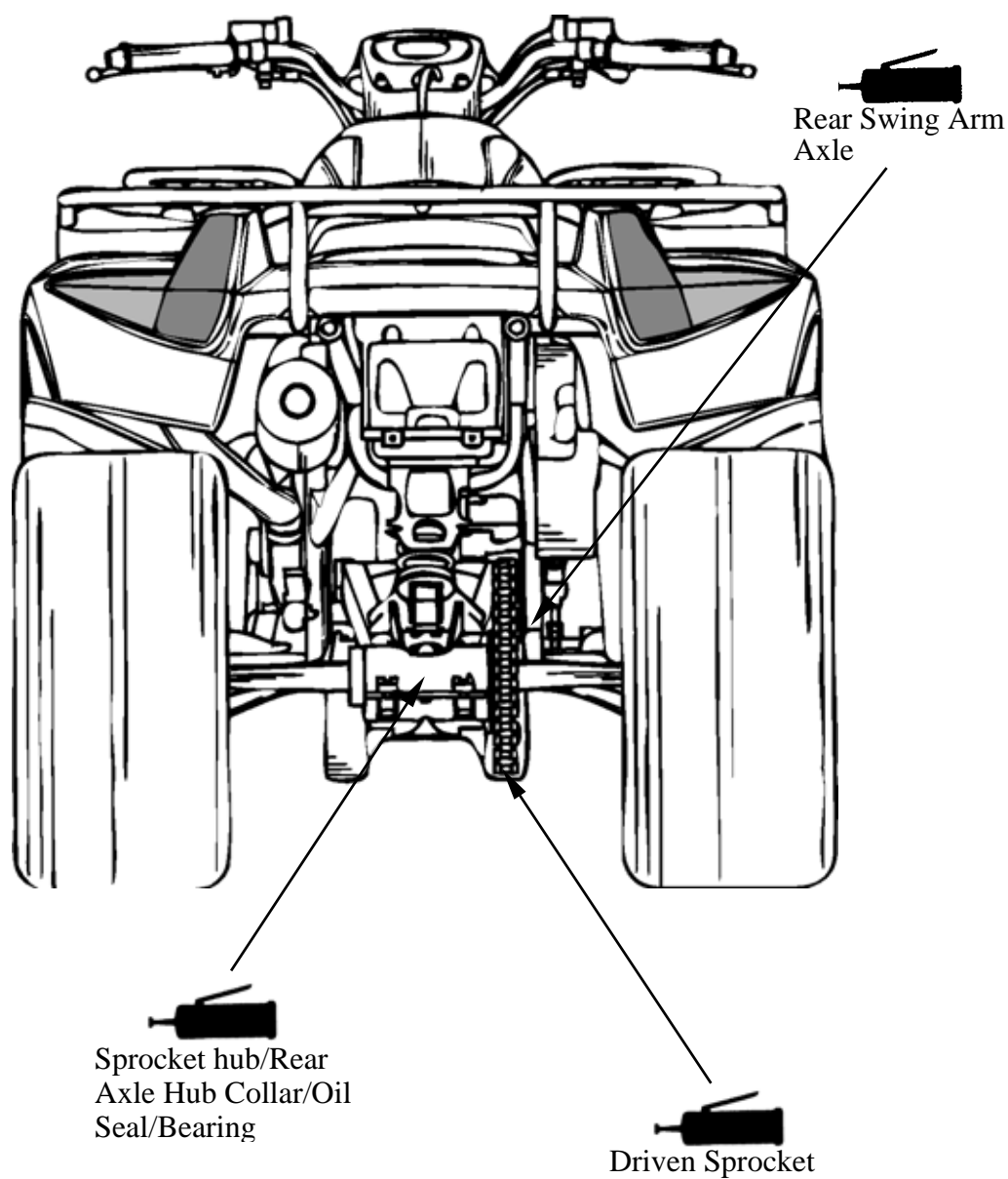
The following is the lubrication points for the frame.

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.

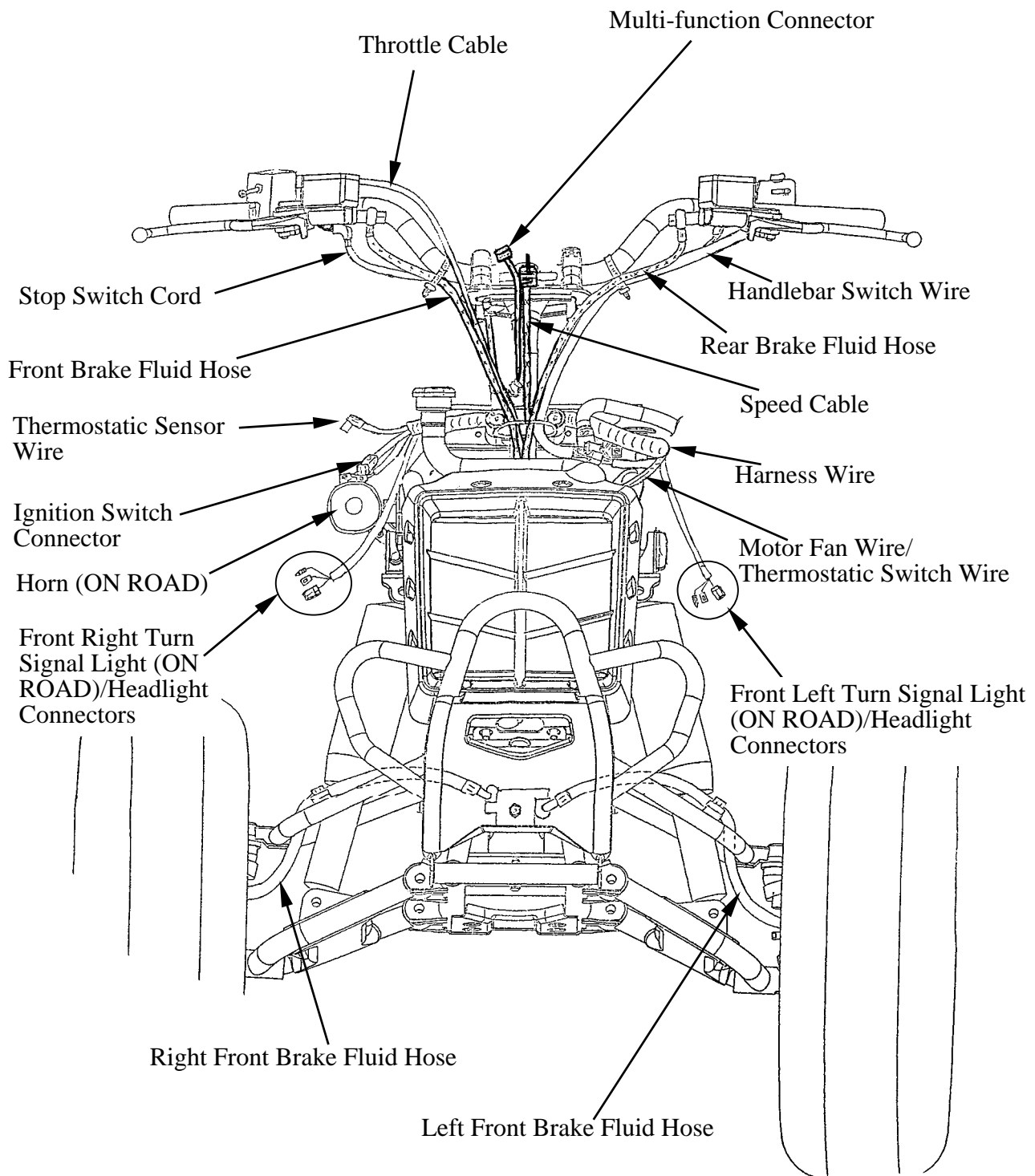


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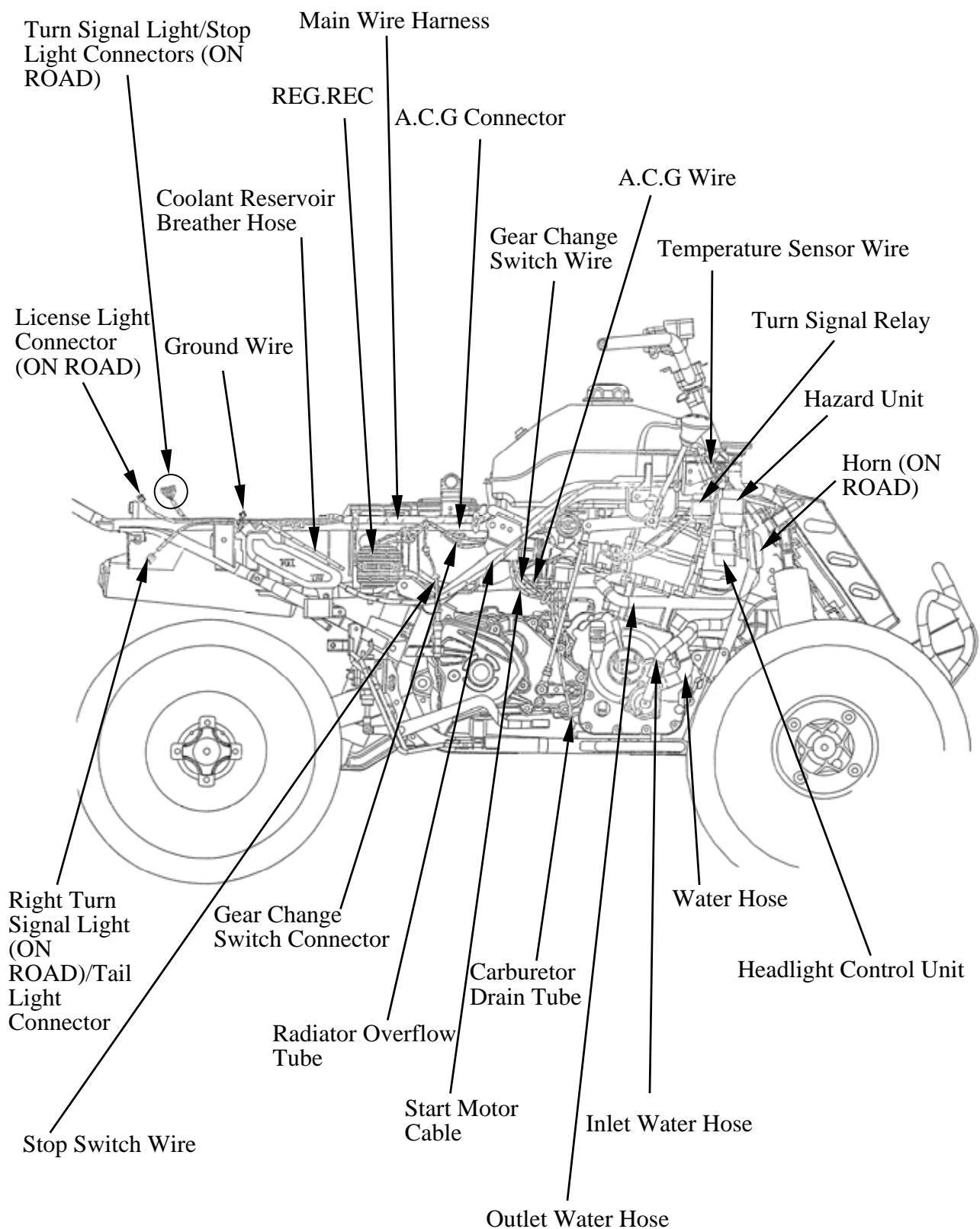


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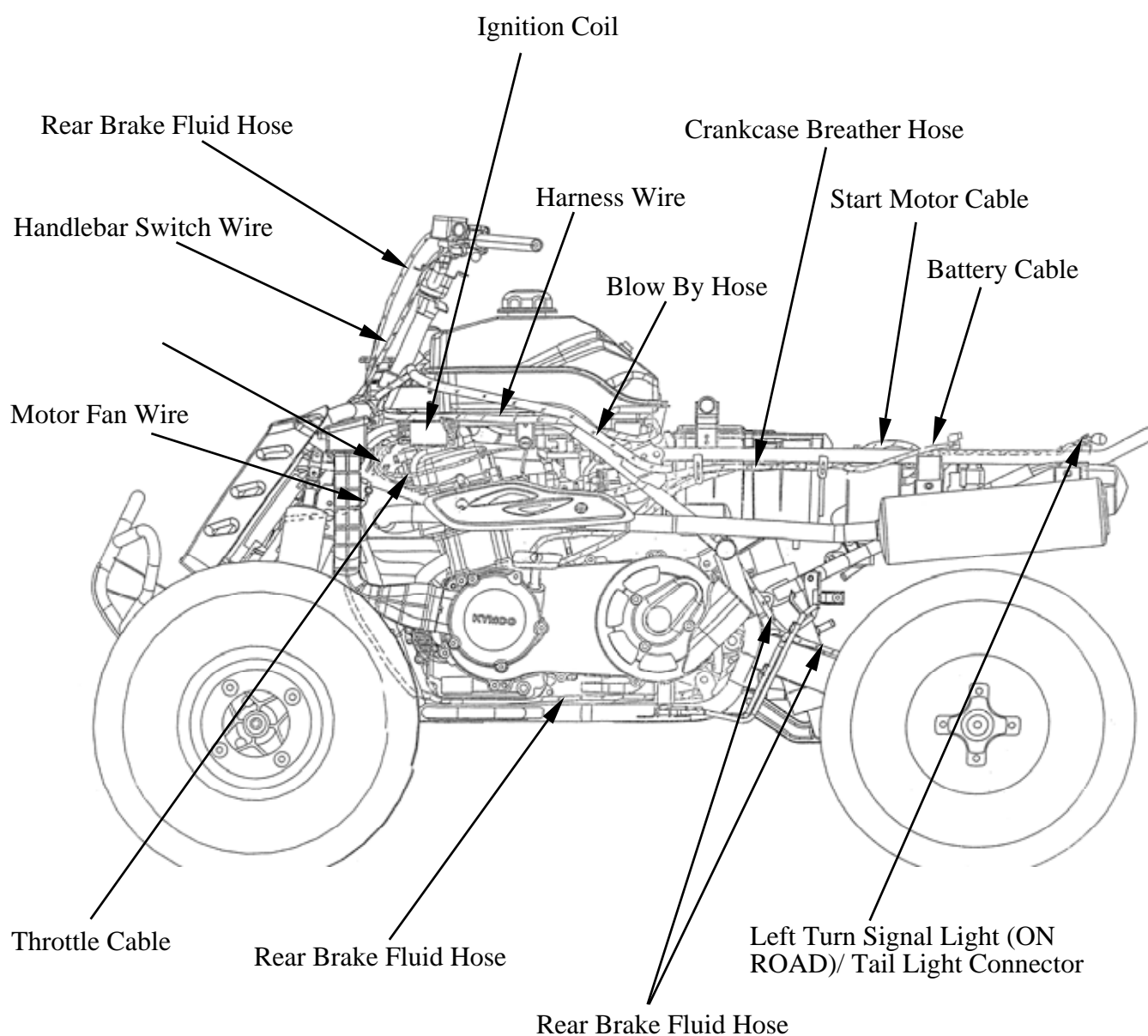
CABLE & HARNESS ROUTING



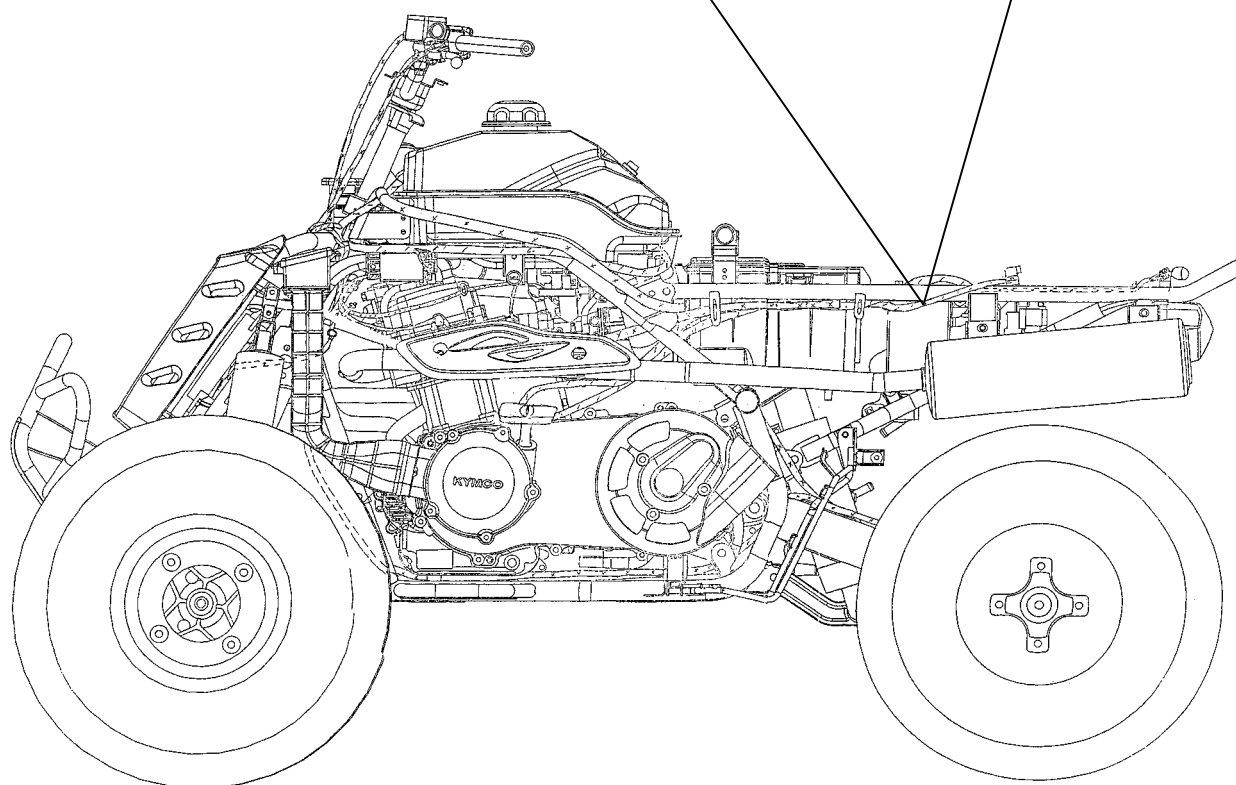
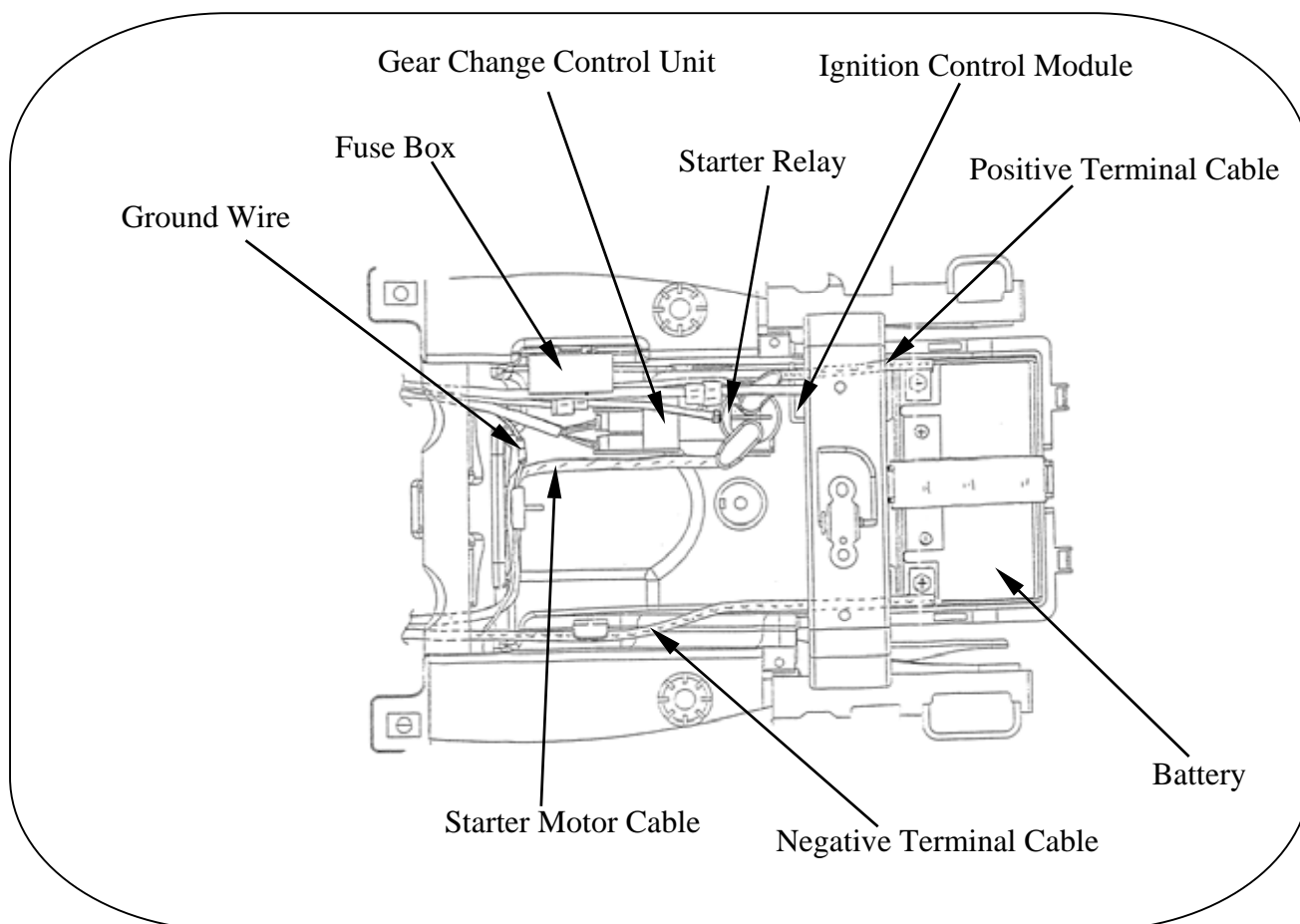
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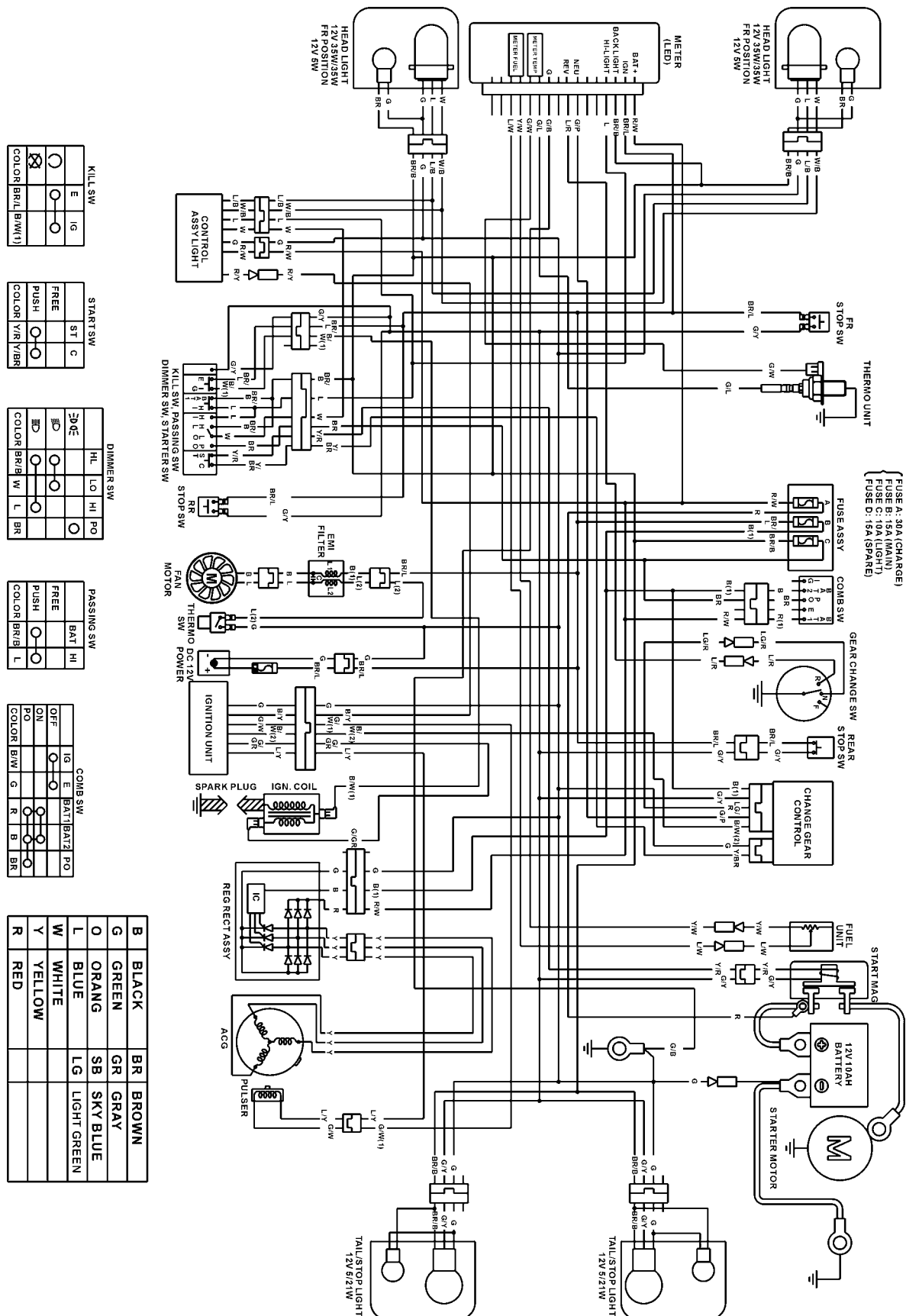


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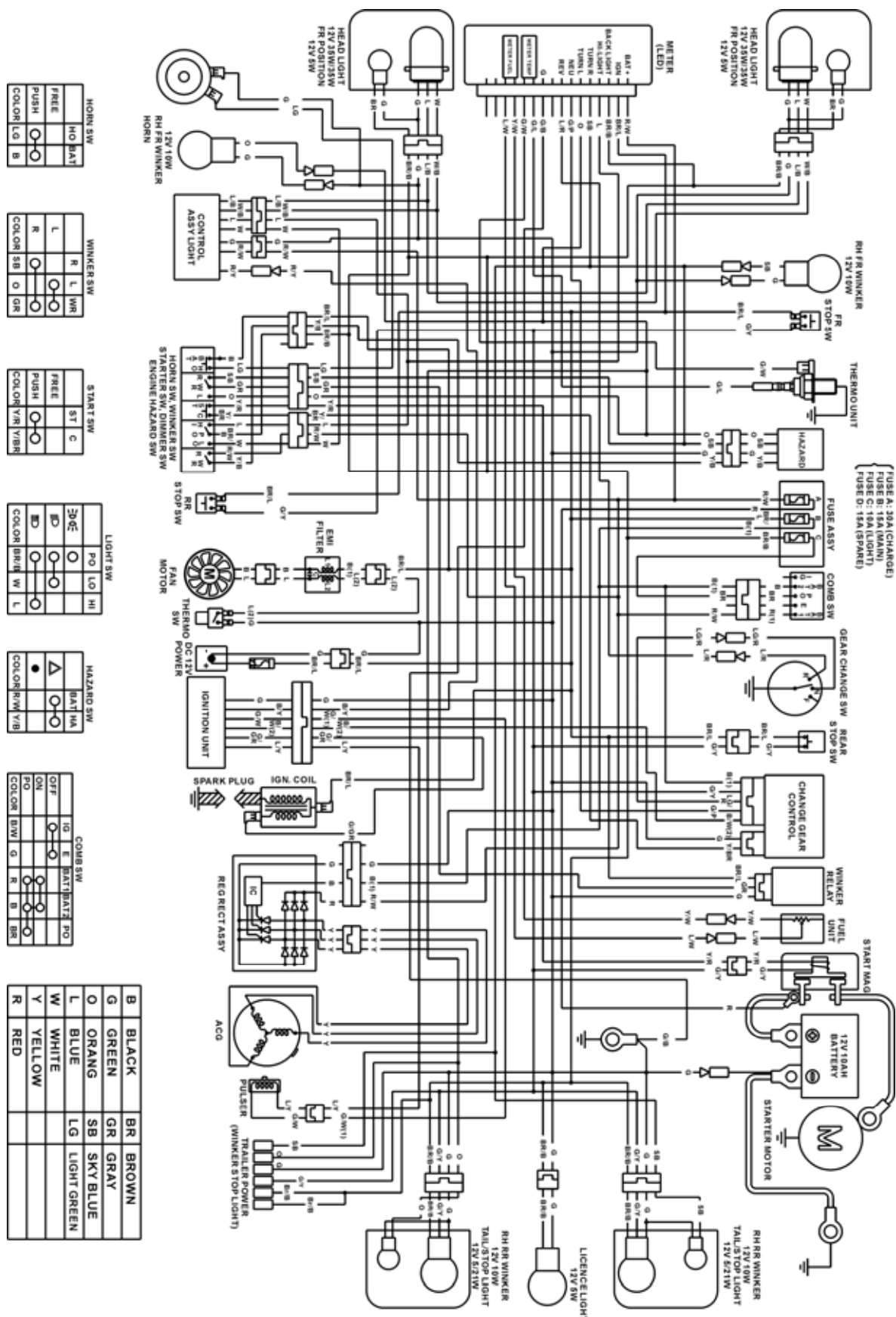
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WIRING DIAGRAM (OFF ROAD)



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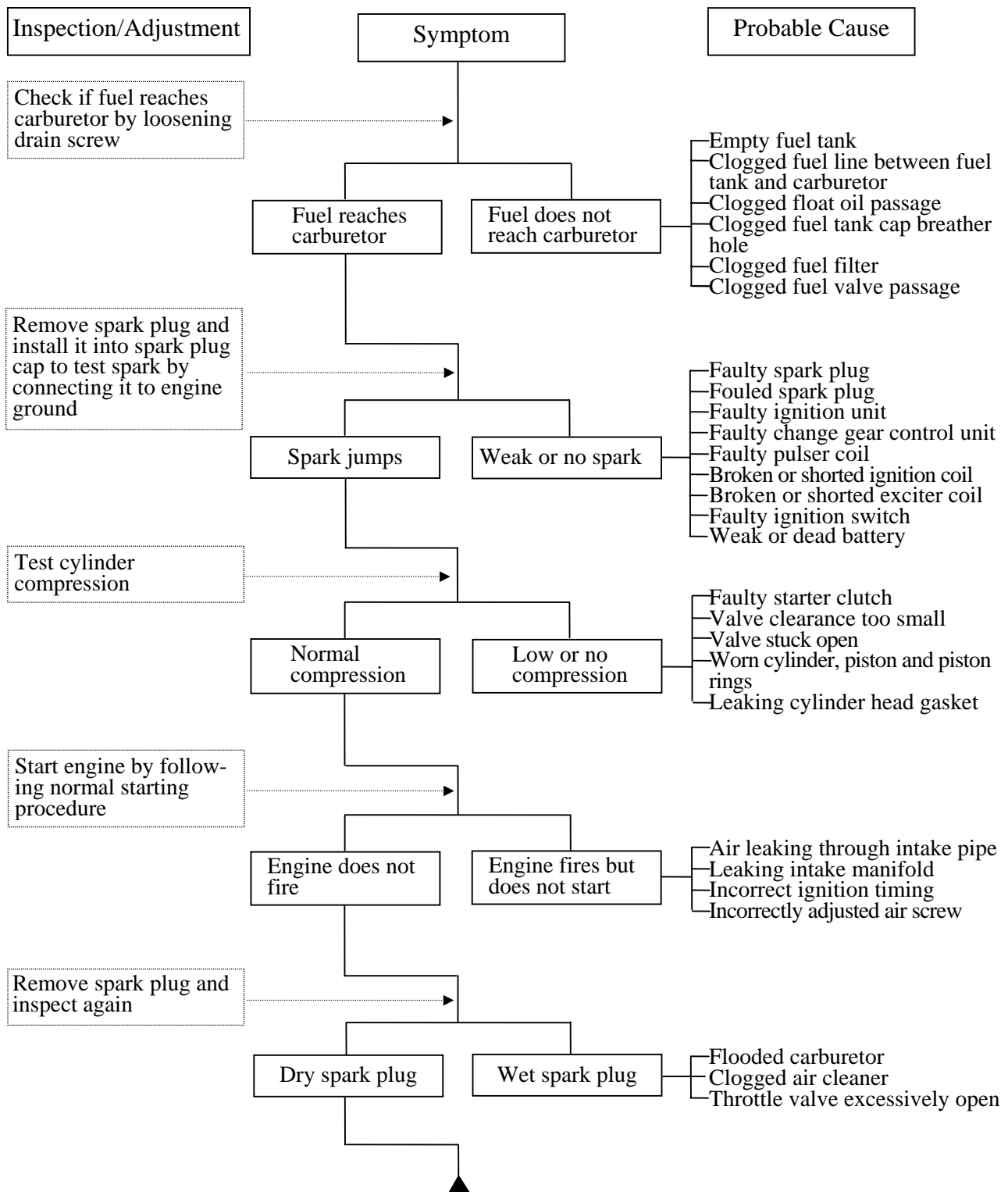
WIRING DIAGRAM (ON ROAD)



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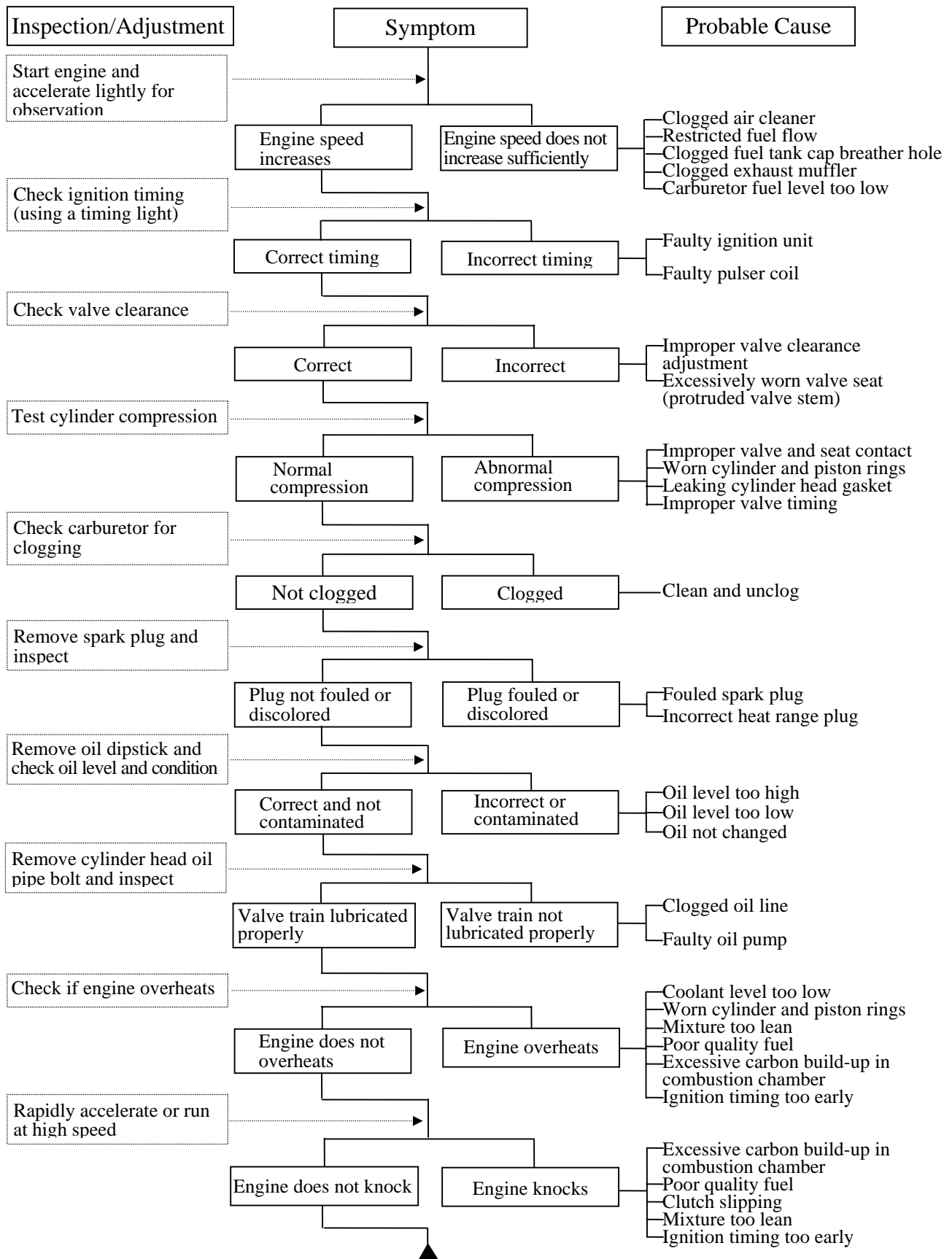
TROUBLESHOOTING

ENGINE WILL NOT START OR IS HARD TO START



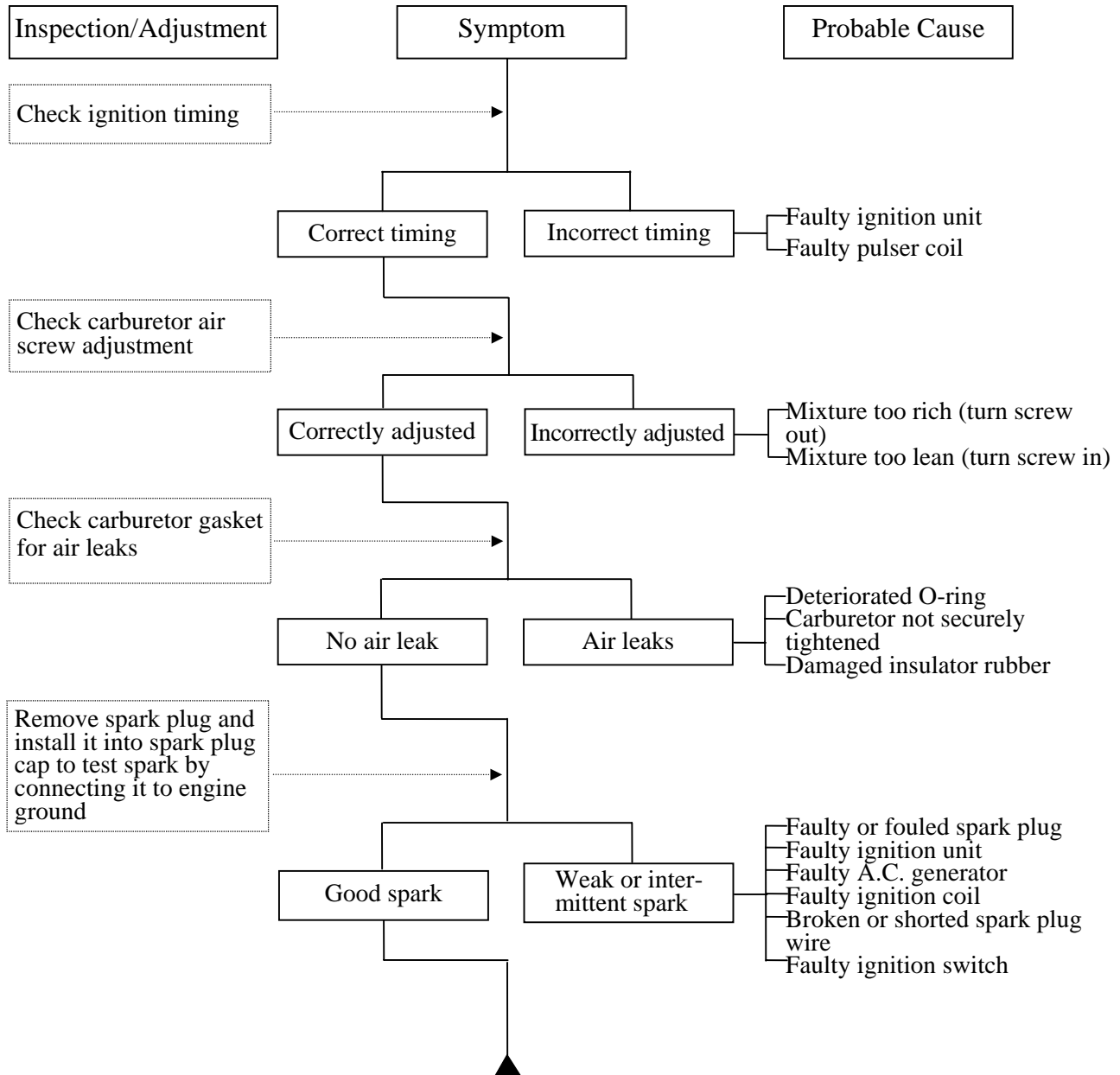
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ENGINE LACKS POWER



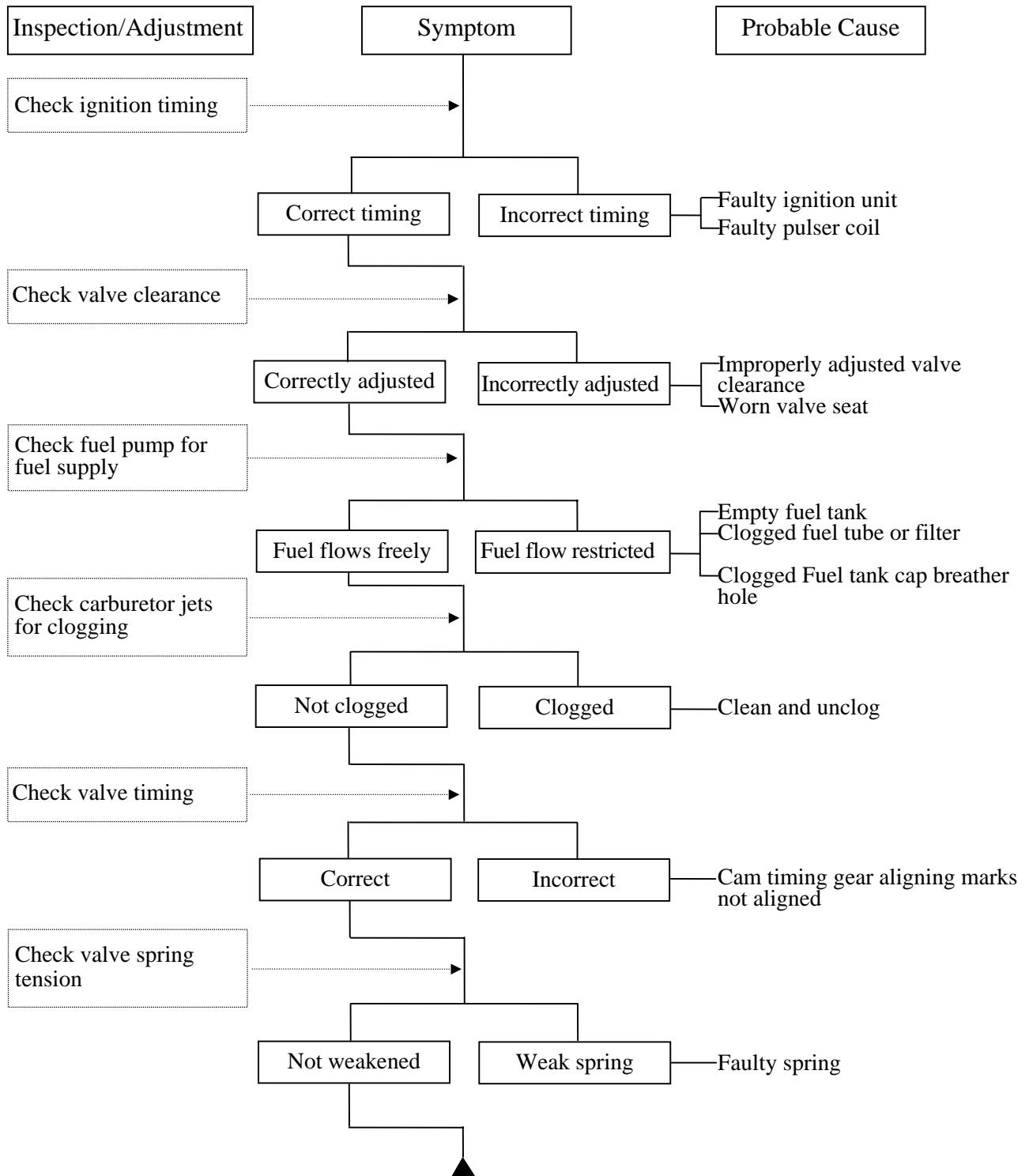
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POOR PERFORMANCE (ESPECIALLY AT IDLE AND LOW SPEEDS)



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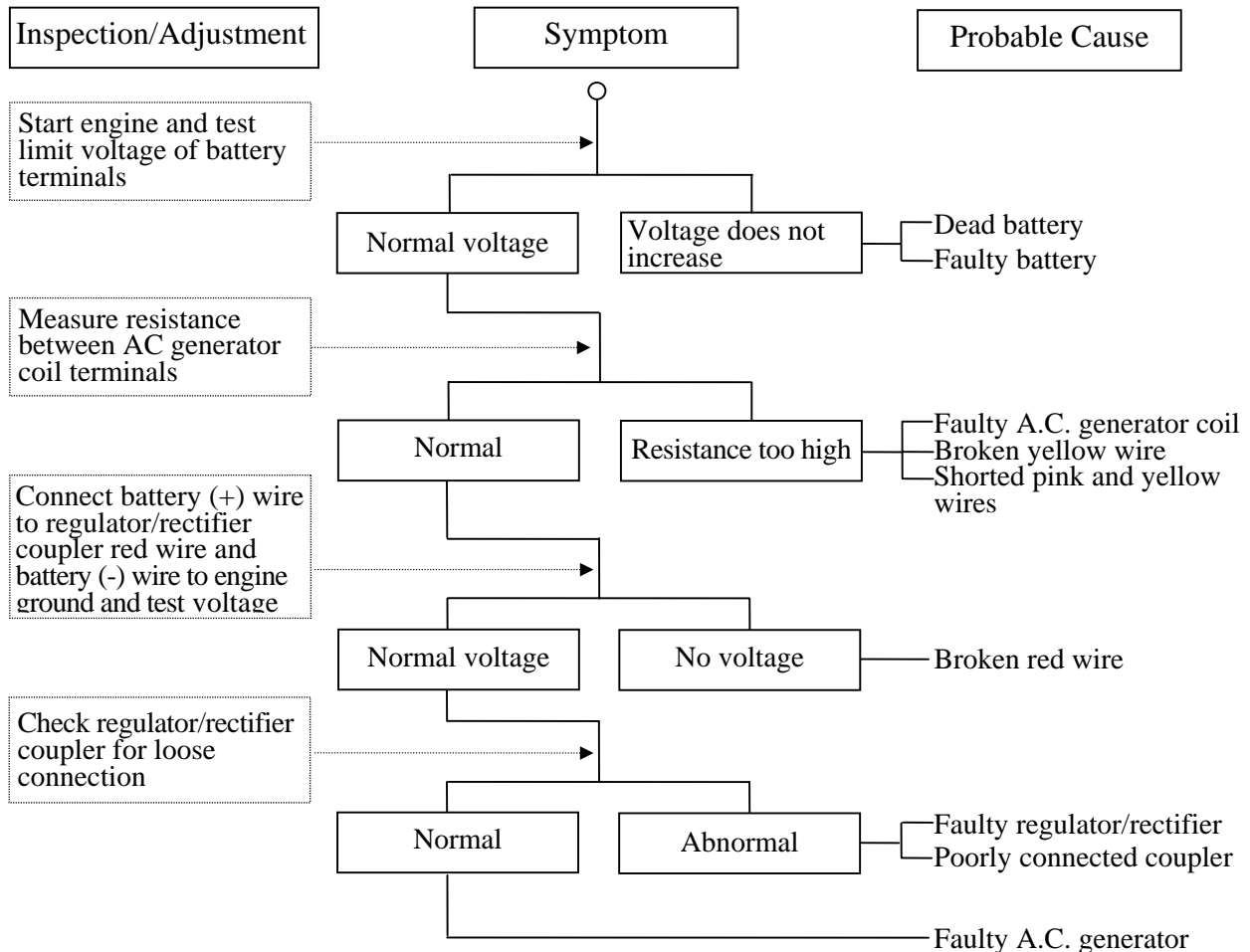
POOR PERFORMANCE (AT HIGH SPEED)



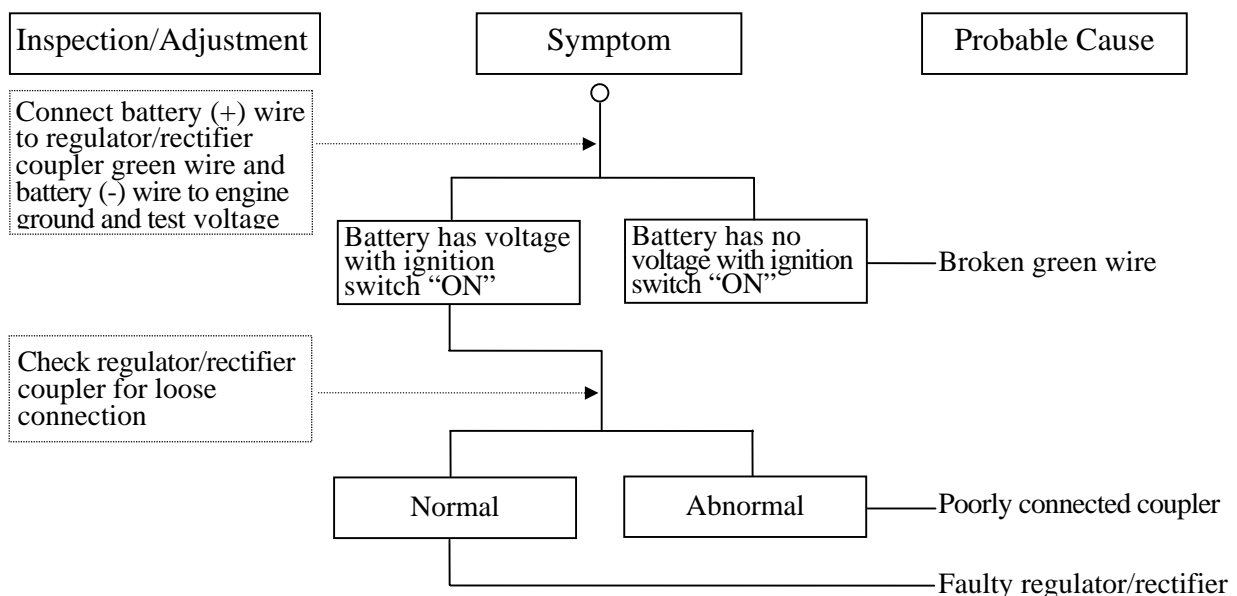
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POOR CHARGING (BATTERY OVER DISCHARGING OR OVERCHARGING)

Undercharging



Overcharging



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NO SPARK AT SPARK PLUG

