



CITY OF SACRAMENTO

DEPARTMENT OF GENERAL SERVICES

By the City Council
Office of the City Clerk

FACILITY MAINTENANCE DIVISION
FLEET MANAGEMENT DIVISION
RISK MANAGEMENT & INS. DIVISION

CITY MANAGER'S OFFICE

OFFICE OF THE DIRECTOR

September 18, 1984

City Council
Sacramento, California

SEP 25 1984

RECEIVED

SEP 19 1984

Honorable Members in Session:

SUBJECT: PREVENTIVE MAINTENANCE PROGRAM (PM) FOR ALL CITY VEHICLES

SUMMARY

At the September 11, 1984 Council meeting, Councilman Johnson requested the General Services Department to submit a report on the City's Preventive Maintenance Program.

BACKGROUND INFORMATION

The Fleet Management Division has an on-going Preventive Maintenance Program for all City vehicles. The program varies depending on the type of vehicle, the number of miles or hours driven, the amount of fuel consumed, the conditions under which the vehicle is operated, special servicing requirements, etc. (see Exhibit I). Four basic Preventive Maintenance procedures are used within the Fleet Management Division. The first procedure used is the basic lube and safety check. This service is done on a daily, weekly, or monthly basis depending on the conditions the vehicle is operated under, the manufacturer's suggested service procedures and intervals, and historical data. The second procedure utilized is the PM-A service which includes all of the work performed in a lube plus changing the oil, filters, and normally a brake lining check and adjustments. The third procedure, called a PM-B, is a combination of the first two procedures with the tuning of the engine, and/or fuel system being included. It may also include a more thorough check of the cooling system (in the Spring and Fall) air conditioning check (in the Spring) windshield wiper operation and blade check (in the Fall) wheel bearing pack, etc. The last scheduled procedure is called PM-C, which again includes previous procedures plus complete transmission servicing, hydraulic system servicing, and replacement of brake lining (as necessary). For examples of the various PM check lists see Exhibits III through III-E.

In addition to these procedures, we have also included in our schedule what we call an Inspection Y which includes the testing and certification of the emission control system on all City vehicles smaller than a one ton pickup. This inspection is being done on an annual basis to comply with the new State Mandated Emission Standards that went into effect in March 1984.

All of the Preventive Maintenance scheduling is monitored by our Automated Fleet Management System, with an Exception Report listing all vehicles due for service and the type of service necessary (see Exhibit II). This Exception Report is normally printed on a weekly or bi-weekly basis depending on the shop, but can be printed on an as needed basis as well.

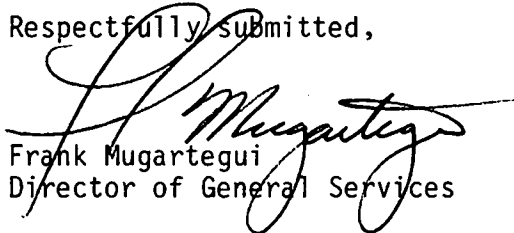
As problems are detected in the repair of City vehicles, procedures are developed and included in our Preventive Maintenance checks, which help to prevent unscheduled breakdowns. This is an on-going program requiring the modification of procedures and the intervals at which they are performed. These modifications are made depending on historical data, the purchase of new vehicles, changes in the using Department's operation of the vehicle, changes in the manufacturer's suggested service procedures and intervals, and any other unscheduled breakdowns which we feel may be prevented by changing our PM procedures.

We hope this has given you a better idea of one of the programs we utilize to maintain the City Fleet. If we can be of any further service, please do not hesitate to contact us.

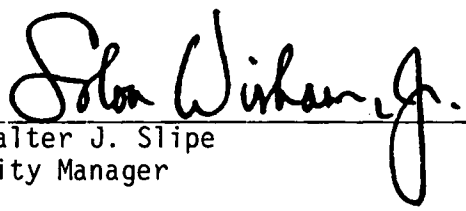
RECOMMENDATION

This report is an informational item requiring no City Council action.

Respectfully submitted,


Frank Mugartegui
Director of General Services

FOR COUNCIL INFORMATION:


For Walter J. Slife
City Manager

September 25, 1984
All Districts

GS: 84162

FILED
By the City Council
Office of the City Clerk

SEP 25 1984

PM-A BY VEHICLE CODE

Passenger vehicles and light trucks	3,000 miles or 90 days
Fire Equipment	2,000 miles or 180 days
Fork Lift	90 hours or 180 days
Roller	90 hours or 180 days
Trencher	90 hours or 180 days
Front Loader	100 hours or 120 days
Motor Grader	90 hours or 180 days
Gradall	90 hours or 180 days
Boom and Crane	90 hours or 180 days
Compressor	100 hours or 120 days
Generator	90 hours or 120 days
Stump Cutter	40 hours or 60 days
Sweeper and Rear Motor	60 hours or 30 days
Lawn Sweeper	90 hours or 180 days
3 Wheel Cart	90 hours or 90 days
Lawn Tractor "Mower"	60 hours or 60 days
Sprayer	40 hours or 180 days
Trailer	Yearly or 360 days

REFUSE VEHICLE PM SERVICE SCHEDULE20 and 25 Yard Trucks

30 days	Lube	750 miles
60 days	PM.A	1500 miles
90 days	Lube	2250 miles
120 days	PM.B	3000 miles
150 days	Lube	3750 miles
180 days	PM.C	4500 miles

Front Loaders - Side Loaders

30 days	Lube	500 miles
60 days	PM.A	1000 miles
90 days	Lube	1500 miles
120 days	PM.B	2000 miles
150 days	Lube	2500 miles
180 days	PM.C	3000 Miles

PREVENTIVE MAINTENANCE STATUS AND SCHEDULING REPORT FOR SCHEDULE THRU SEP 13 84

1P RUN ON 12-SEP-84 AT 04:21 PM BY GP

MAINTENANCE RESPONSIBILITY: 1437

28TH ST/WASTE REMOVAL GARAGE

LAST SERVICE METER DATE SERVICE DUE AT METER DATE REASON SERVICE DUE METER DATE FUEL ** OVERDUE BY: ** TIME REQD

EQUIPMENT YR MAKE	EQ.CLASS	LAST SERVICE METER DATE	SERVICE DUE AT METER DATE	REASON SERVICE DUE METER DATE	FUEL	** OVERDUE BY: **	TIME REQD
3980 76 CRN CAR	3026 PM-C	9325 APR 5 84	12325 AUG 3 84	12884 SEP 13 84		409 35	✓
4089 77 INTL	2741 PM-A	27763 OCT 7 83	30763 APR 9 84	31064 SEP 13 84		130	
4219 77 CUSHMAN	3608 PM-A	9175 FEB 7 83	MAY 9 83	SEP 13 84		480	
4220 77 CUSHMAN	3608 PM-A	22564 MAY 22 84	AUG 21 84	SEP 13 84		10	
4301 78 CUSHMAN	3608 PM-A	29355 JUL 19 84	30355	114301		83796	✓
4417 78 INTL	3020 LUBE	41444 JUL 18 84	AUG 17 84	SEP 13 84		26	
	PM-A	40297 APR 17 84	41797 JUN 16 84	41722 SEP 13 84		86	
	PM-B	40297 APR 17 84	AUG 15 84	SEP 13 84		23	
4418 78 INTL	3020 PM-B	45384 APR 17 84	AUG 15 84	SEP 13 84		23	
4419 78 INTL	3020 PM-B	41803 APR 23 84	AUG 21 84	SEP 13 84		17	
4420 78 INTL	3020 PM-A	39695 APR 26 84	JUN 25 84	SEP 13 84		77	
	PM-B	39695 APR 26 84	AUG 24 84	SEP 13 84		14	
4421 78 INTL	3020 LUBE	46224 AUG 13 84	SEP 12 84	SEP 13 84			
	PM-A	44902 APR 23 84	46402 JUN 22 84	46513 SEP 13 84	364	36 80 49	
	PM-B	44902 APR 23 84	AUG 21 84	SEP 13 84		17	
4422 78 INTL	3020 PM-A	35040 JUL 13 84	SEP 11 84	SEP 13 84			
	PM-B	32984 APR 19 84	35984 AUG 17 84	36001 SEP 13 84		21	
4423 78 INTL	3020 PM-B	39729 APR 23 84	AUG 21 84	SEP 13 84		17	
4424 78 INTL	3020 PM-A	30141 APR 24 84	JUN 23 84	SEP 13 84	325	79 10	
	PM-B	30141 APR 24 84	AUG 22 84	SEP 13 84		16	
4425 78 INTL	3020 LUBE	28648 AUG 3 84	SEP 2 84	SEP 13 84		10	
	PM-A	27967 APR 19 84	JUN 18 84	SEP 13 84		84	
	PM-B	27967 APR 19 84	AUG 17 84	SEP 13 84		21	
4426 78 INTL	3020 PM-B	31852 APR 20 84	AUG 18 84	SEP 13 84		20	
4569 79 INTL	3020 PM-A	12854 MAY 9 84	JUL 8 84	SEP 13 84	425	64 110	
	PM-B	12854 MAY 9 84	SEP 6 84	SEP 13 84		1	
4570 79 INTL	3020 PM-A	21225 JUL 10 84	SEP 8 84	SEP 13 84		2	
4571 79 INTL	3020 PM-A	21958 JUN 14 84	AUG 13 84	SEP 13 84	374	28 59	
4573 79 INTL	3020 PM-A	23030 JUN 21 84	AUG 20 84	SEP 13 84	438	21 123	
4574 79 INTL	3020 PM-A	20300 JUN 20 84	AUG 19 84	SEP 13 84	466	22 151	
4575 79 INTL	3020 LUBE	18582 AUG 2 84	SEP 1 84	SEP 13 84		11	
	PM-B	17000 APR 4 84	AUG 2 84	SEP 13 84		36	
4576 79 INTL	3020 PM-A	22109 JUL 2 84	AUG 31 84	SEP 13 84	381	10 66	

PASSENGER VEHICLE, POLICE VEHICLE, AND LIGHT TRUCK
P.M.-A SERVICE

A. Chassis Service:

- 1. Attach service sticker _____ records _____.
- 2. Lubrication, steering and ball joints etc...per manufacturer's chart.
- 3. Change oil.
- 4. Change oil filter.
- 5. Lube doors, hinges, hood latch, and hinge.
- 6. Rotate tires every third P.M. service (9000 miles) and record.
- 7. Check tire size, type, wear and air pressure including spare and secure.
Use manufacturer's listing.
- 8. Check wheel alignment (tire wear).
- 9. Check upper control arm nuts, bolts, bushings for tightness and wear.
- 10. Check lower control arm nuts, bolts, bushings for tightness and wear.
- 11. Check differential level $\frac{1}{2}$ inch below fill hole. Check for proper
lubricant prior to adding.
- 12. Lube heat riser and free up.
- 13. Proper zerker fittings installed.

B. Safety Check Items:

- 1. Front and rear brake linings every P.M.
- 2. Check tightness rear backing plate and calipers mounting bolts.
- 3. Check rear axle seals.
- 4. Check all wheel cylinders and master cylinder for leaks and fill if needed.
- 5. Check drive shaft u-joints (on vehicle).
- 6. Check undercarriage for damage and wear.
- 7. Check idler arm for wear and tightness.
- 8. Check steering for wear and tightness.
- 9. Check mufflers, hangers, exhaust system connections, and shields, convertors.
- 10. Inspect rear spring hangers and eye bolts.
- 11. Horns, both operating and tuned properly.
- 12. Seat belts and shoulder harness properly installed and operating. Must
be clean, front and rear seats for defects: lap belt only, ok in B/W.
- 13. Tools, jacks, attachments and lug wrench, where applicable.
- 14. Hub caps - four installed - no damage, can have all 4 removed on B/W.
- 15. Check for proper installation and operation of shocks, leaks and bushings.
- 16. Pads on brakes, clutch, throttle pedal, no metal showing.

P.M.-A Service

C. Engine Check Items:

- ___ 1. Power steering fluid level and leaks..
- ___ 2. Pressure check coolant system, soft plugs - water pump - hoses radiator and block, HTR values, coolant tank level and anti-freeze content.
- ___ 3. Transmission fluid level.
- ___ 4. Battery condition (specific gravity); level; clean posts and related parts.
- ___ 5. Check condition air filter installation; replace if dirty or worn.
- ___ 6. Transmission service due at every 25,000.
- ___ 7. Engine tune service due at every 10,000 with points, 20,000 with electronic.
- ___ 8. Siren mounting bracket & condition on police and fire vehicles.
- ___ 9. Check oil filter installation for leaks.
- ___ 10. Belts and pulleys - belt tension and condition.
- ___ 11. Vacuum hose installation and burning and chaffing possibilities, vacuum hoses attached where applicable.
- ___ 12. Check choke operation and vacuum diaphragm
- ___ 13. Start in neutral and park only.
- ___ 14. Oil leaks - valve cover - oil sender - oil pump - transmission rear end, etc.

D. Electrical Checks:

- ___ 1. Unitrol, check all flashing, rotating lights, alley lights, gun lock release (including floor mounted) and siren on police and fire vehicles.
- ___ 2. Check all exterior light; high, low beam; and adjust turn signal, rear tail and brakes, back-up and running; license plate, emergency flasher etc.
- ___ 3. Check all interior lights; dash rheostat; map; overhead; spot brake light cut out, etc.
- ___ 4. Dome light, door jamb disconnected on police - operating on others.
- ___ 5. All instruments - gauge and lite sender type.

E. Miscellaneous:

- ___ 1. Doors - graphite all locks
 - ___ a. Proper fit in opening (alignment)
 - ___ b. Adjustment at latch
 - ___ c. Dents or other damage
- ___ 2. Glass
 - ___ a. Damage
 - ___ b. Operating of regulator mechanism
 - ___ c. Binding in run channels
 - ___ d. Proper fit in opening
- ___ 3. Hood - adjustment at catch and hood stops.

P.M.-A Service

- ___ 4. Grill - headlight, doors etc.
- ___ 5. Fenders - damages.
- ___ 6. Trunk lid - hold - open mechanism graphite lock.
 - ___ a. Hold catch
 - ___ b. With weather strip properly installed in opening
 - ___ c. Trunk lid remote operation; fire extinguisher sealed and mounted.
- ___ 7. Check secure mounting of gun lock; write in pad; etc...at dash on police and fire vehicles.
- ___ 8. Tightness all rear mirrors and remote controls.

F. Road Test For:

- ___ 1. Steering - lead left or right and wandering, stability.
- ___ 2. Power steering operation.
- ___ 3. Brakes - proper stopping, pull, pedal surge, noise.
- ___ 4. Noise (differential).
- ___ 5. Rattles.
- ___ 6. Transmission noise - proper shift pattern up and down.
- ___ 7. Speedometer - noise and calibration card dated on police vehicles.
- ___ 8. Heater and air conditioning operation.
- ___ 9. Windshield wiper and washer operation.
- ___ 10. Rear window defroster operation.
- ___ 11. Seat condition and operation.
- ___ 12. Check and repair club holders in police vehicles.
- ___ 13. Clutch linkage.
- ___ 14. Wiper blades.
- ___ 15. Fluid level in manual transmission and transfer case.
- ___ 16. Vibration.
- ___ 17. Steam engine top and bottom as needed.

PASSENGER VEHICLES, POLICE VEHICLES AND LIGHT TRUCKS

P.M.-B SERVICE AND INSPECTION Y

10,000 Mile Engine Tune W Point Ign System

20,000 Mile Engine Tune W Electronic Ign System

- ___ 1. Take H.C. + C.O. reading @ idle and at 2500 RPM and note.
- ___ 2. Clean battery and cables and battery box.
- ___ 3. Find and mark timing marks.
- ___ 4. Check distributor cap and rotor. Clean off oxidations of post in cap.
- ___ 5. Gap new plugs and remove old .plugs.
- ___ 6. Check plug wires and coil wire.
- ___ 7. Install new points (now set dwell).
- ___ 8. Install new plugs, check plug heat range, use colder plug up to 50,000 to 60,000 miles. Set timing to specs under hood.
- ___ 9. Tighten:
 - ___ a. Exhaust manifold bolts;
 - ___ b. Intake manifold bolts;
 - ___ c. Carburetor mounting bolts;
 - ___ d. Carburetor body bolts;
 - ___ e. Valve covers.
- ___ 10. Check and lube heat riser.
- ___ 11. Check all belts and pulleys (tension and condition).
- ___ 12. Check battery condition and output of alternator.
- ___ 13. Check radiator and hoses soft plugs etc...water pump-condensation vent
- ___ 14. Clean carburetor linkage and air cleaner.
- ___ 15. Check choke diaphragm.
- ___ 16. Check vacuum hoses (installation, burning, chaffings, routing).
- ___ 17. Check P.C.V. valve.
- ___ 18. Check wire connections.
- ___ 19. Check timing.
- ___ 20. Check E.G.R. system.
- ___ 21. Check steering, play-leaks-wheel aligned.
- ___ 22. Check transmission, shift pattern, neutral switch, fluid, slippage selector aligned.
- ___ 23. Check all lights and gauges as in P.M. svc.
- ___ 24. Brake pedal pad (as in p.m.).
- ___ 25. Check cooling fins on radiator and a.c. condenser for bugs and weeds etc.

P.M.-B Service and Inspection Y

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- 26. Check operation of all accessories as in p.m.
 - ___ a. Gun lock (floor switch and unitrol) in police vehicles.
 - ___ b. Lights revolving and flashing.
 - ___ c. Club holders in police vehicles.
 - ___ d. Map light.
 - ___ e. Hand spot light.
 - ___ f. Alley lights in police vehicles.
 - ___ g. Writing pad holder.
 - ___ h. Seat belts (lap belt only in B/W o.k.)
 - ___ i. Wipers and blades.
 - ___ j. Mirrors.
 - ___ k. A/C heater and controls (heater valve and cables).
 - ___ l. Seat condition.
 - ___ m. Motor mounts, trunk lid operation (key and elect).
 - ___ n. Siren and horn in police and fire vehicles. Horn in all.
- 27. Oil leaks-v/cover
 - ___ a. Oil senders.
 - ___ b. Oil pump.
 - ___ c. P/S pump-hoses and gear.
 - ___ d. Trans cooler and lines.
 - ___ e. Oil cooler.
 - ___ f. Fuel system for leaks.
 - ___ g. A/C hoses and accessories.
- ___ 28. Take H.C. & C.O. reading at idle and at 2500 RPM for B.A.R. inspection.

CUSHMAN P.M.-A SERVICE

200 Hours or Every 2000 Miles

1. The vehicle model name plate is mounted on the left kick panel below the dash panel. (Varies on models.)
2. The vehicle series number is located on the left front platform support immediately behind engine cover.
3. The engine serial number is located on the flat surface of the crankcase below and to the rear of the dipstick opening or stamped on the top inner portion of the fan housing.

4. Chassis Service:

a. Attach service sticker, complete records. Attach sticker on dash and on upper left hand corner above rear glass.

b. Lubrication

<u>Area</u>	<u>No. of Fittings</u>
1. Rear spring shackles	4
2. Drive shaft (excessive grease may damage seals).	3
3. Clutch bellcrank	1
4. Steering gear box - one pump per fitting. (excessive grease may damage casting)	
5. Leading link bushings on front wheel	2
6. Lower fork pivot bearing on front wheel	1
7. Brake bellcrank	1
8. Clutch arm	1

** See Chart for all above.

c. Change oil

d. Change oil filter

e. Lube bellcranks, cables, linkages, etc...(moving parts)

f. Check tire size, type, wear and air pressure. Use manufacturer's specs (5.70X8-6 ply) varies with vehicle weight. Refer to spec sheet by Equipment number.

g. Check front suspension nuts, bolts, bushings, for tightness and wear.

h. Check differential level-level at filler hole.

i. Check transmission level-level at filler hole.

5. Safety Check Items:

a. Front and rear brake linings every P.M. and make estimate, put estimate on card and work order.

Cushman P.M.-A Service

Page 2

- ___ b. Check tightness of rear backing plate.
 - ___ c. Check rear axle seals.
 - ___ d. Check all wheel cylinders and master cylinders for leaks and fill if needed.
 - ___ e. Check and make sure front backing plate has no in and outside play from drum, after reinstalling front wheel make sure front suspension has free movement. Adjust all brakes.
 - ___ f. Check drive shaft u-joints (on vehicle).
 - ___ g. Check undercarriage for damage and wear.
 - ___ h. Check steering for wear.
 - ___ i. Check clutch pedal adjustment, 1" to 1½" pedal free travel.
 - ___ j. Check mufflers, hangers, exhaust system connections, and shields.
 - ___ k. Inspect rear spring hangers and eye bolts.
 - ___ l. Horn operating and tuned properly.
 - ___ m. Seat belts and shoulder harness properly installed and operating, must be clean.
 - ___ n. Check for proper installation and operation of shocks, leaks and bushings.
 - ___ o. Pads on brakes, clutch, throttle (if equipped) no metal showing.
 - ___ p. Inspect gear selector, parking brake lever, speedometer.
6. Engine Check Items:
- ___ a. Battery condition (specific gravity) level, clean posts and related parts.
 - ___ b. Check condition of air filter installation, replace if dirty or worn.
 - ___ c. Engine tune due every 1000 hours.
 - ___ d. Check oil filter installation for leaks.
 - ___ e. Belts and pulleys - belt tension and condition.
 - ___ f. Check choke operation.
 - ___ g. Start in neutral only, parking brake set.
 - ___ h. Oil leaks, valve covers, oilsender, etc., transmission, rear end, p.t.o. hydraulics if equipped.
7. Electrical Checks:
- ___ a. Fuel gauge.
 - ___ b. Windshield wiper.
 - ___ c. Horn.
 - ___ d. Hour meter.

Cushman P.M.-A Service

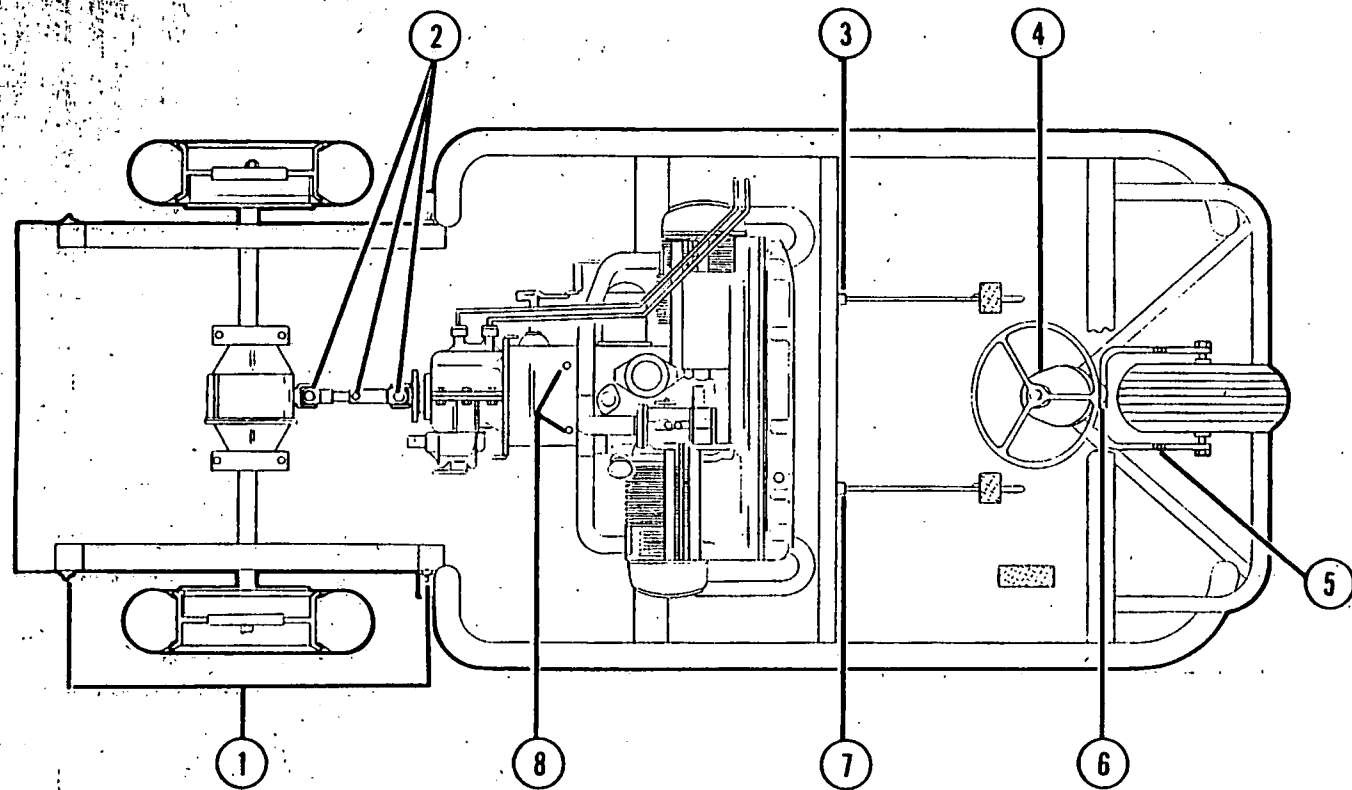
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- ___ e. Oil pressure warning light (red). Extremely low oil pressure will prevent operation of the electric fuel pump (some models).
 - ___ f. Hi-beam indicator light (blue).
 - ___ g. Ignition switch.
 - ___ h. Ammeter.
 - ___ i. Turn signal switch.
 - ___ j. Flasher indicator light (red).
 - ___ k. Dimmer switch.
 - ___ l. Heater - defroster switch.
 - ___ m. Flasher (hazard) switch.
 - ___ n. Rotating lights, brake lights, license plate, map, gauge lights, etc., tail lights, flashing lights.
 - ___ o. Fan.
8. Miscellaneous:
- ___ a. Graphite all locks.
 - ___ b. Check glass for damage.
 - ___ c. Overall body damages.
 - ___ d. Check secure mounting of mirrors, write in pad, fuel cardholder, etc.
 - ___ e. Inspect all emergency and precaution signs mounted on vehicle.
9. Road Test For:
- ___ a. Steering - lead left or right.
 - ___ b. Brakes - proper stopping, pull, pedal surge, noise.
 - ___ c. Noise (differential).
 - ___ d. Transmission noise - proper shift pattern up and down.
 - ___ e. Speedometer - noise and operation.
 - ___ f. Heater operation.
 - ___ g. Windshield wiper operation - blade.
 - ___ h. Seat condition and clean.
 - ___ i. Clutch linkage.
 - ___ j. Vibration, excessive noise.
 - ___ k. Steam engine top and bottom as needed, wash, clean windows, inside & out.
 - ___ l. Inspect compartment in rear of cab (exposed type) has drain holes.

1000 hours - tune

4000 hours - Change trans oil and differential grease
 Trans SAE 80 diff. EP 80-90 multigrade lube

CHASSIS LUBRICATION CHART



19

REFUSE VEHICLE P.M. SERVICE CHECK LIST

1. Lube:

30 days - 750 miles

- a. Lube chassis.
- b. Lube packer and P.T.O. shaft "U" joints.
- c. Inspect and adjust brakes.
- d. Check all fluids and oil levels.
- e. Check over for general safety
 - 1. Worn parts
 - 2. Broken parts
 - 3. Air and fluid leaks
 - 4. Tire condition
 - 5. Lights
 - 6. Back alarm
 - 7. Battery and cable condition
 - 8. Air induction leaks
 - 9. Cab glass

2. PM.-A

60 days - 1500 miles

All lube items, plus

- f. Change engine oil and filters.

3. PM-B

120 days - 3000 miles

All lube and PM-A items plus

- g. Change all fuel filters.
- h. Check air filter for replacement.
- i. Change water filter.

4. PM-C

180 days - 4500 miles

All lube, PM-A - PM-B plus

- j. Service transmission.
- k. Change power steering filter.
- l. Service all hydraulic filters (clean or replace element).

MOTORCYCLE EQUIPMENT REPORT

DATE: _____ 19__

EQUIPMENT NO. _____ REPORTED BY: _____ TIME: _____

MILEAGE: _____ OFFICER SHIFT: _____ DAYS OFF: _____

REPORTED TO: _____

NATURE OF PROBLEM: _____

OFFICER: _____ BADGE NO. _____

SUPERVISOR: _____ BADGE NO. _____

ROUTINE SAFETY CHECK ITEMS:

MECHANIC TO INITIAL EACH CHECK AS PERFORMED. REPAIR OF ANY DEFECT TO BE AUTHORIZED BY POLICE GARAGE BEFORE BEING DONE. OFFICER TO INITIAL BELOW SAFETY ITEMS UPON RECEIPT OF BIKE FROM VENDOR PRIOR TO LEAVING POLICE GARAGE.

MECHANIC OFFICER

MECHANIC OFFICER

- LIGHTS & SWITCHES
- FRONT & REAR TIRES
- FRONT & REAR BRAKES
- CHAIN
- SPROCKETS
- AXLE NUTS & KEYS
- ROAD TEST

- HORN
- SHOCK ABSORBERS
- WHEELS, SPOKES, RIM LOCK
- CLUTCH CABLE
- THROTTLE CABLE
- OIL LEVEL

OFFICERS COMMENTS (IF ANY), AFTER COMPLETION OF THE ABOVE WORK REQUEST: _____

OFFICER: _____ DATE: _____

MOTORCYCLE PREVENTIVE MAINTENANCE INSTRUCTION CHART

19

(See reverse side for Instructions and Footnote explanations)

FOOTNOTE	JOB TAG NUMBER OR DATE																					
	ODOMETER READING	500	2,000	4,000	6,000	8,000	10,000	12,000	14,000	16,000	18,000	20,000	22,000	24,000	26,000	28,000	30,000	32,000	34,000	36,000	38,000	*40,000
	SERVICE OPERATIONS																					
1	OIL AND FILTER CHANGE	X	X	X		X		X		X		X		X		X		X		X		X
2	LUBRICATION	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
3	AIR CLEANER				X			X			X			X			X			X		
4	CHAIN	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
5	CAM-CHAIN	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
6	IGNITION POINTS	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
7	SPARK PLUGS/TIMING	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
8	VALVE LIFTER CLEARANCE	X		X		X		X		X		X		X		X		X		X		X
9	BATTERY	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
10	BRAKE SYSTEM	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
11	WHEELS-TIRES	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
12	WHEEL BEARINGS	SEE FOOTNOTE 12																				
13	REAR SHOCKS				X			X			X			X			X			X		
14	REAR FORK ADJUSTMENT				X			X			X			X			X			X		
15	STEERING HEAD BEARING				X			X			X			X			X			X		
16	CARBURETOR	SEE FOOTNOTE 16																				
17	OPERATION CHECK	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
18	ROAD TEST	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X

MAJOR REPAIRS/DEVIATION FROM SCHEDULED SERVICES

INSTRUCTIONS

1. This Preventive Maintenance Instruction Chart shall be used for all Kawasaki solo motorcycles operated by the Department.
2. Perform those preventive maintenance operations listed which have an "X" opposite a particular mileage.
3. When all the services for a specified odometer reading have been completed, draw a line through each "X" to indicate that the work has been performed. Enter the Job Tag number or date performed in the space provided.
4. Preventive maintenance operations shall be performed on the basis of odometer reading and not miles traveled since the last service work was performed.
5. Preventive maintenance operations shall, insofar as is reasonably practical, be performed within plus or minus 200 miles of the specified mileage.
6. If it becomes necessary to perform a service operation between maintenance periods, the regular maintenance should be performed at the required odometer reading in order to get back on schedule.
7. If mechanical repairs are performed between the specified odometer readings, which would duplicate a particular service operation within a very short period, the Commanding Officer of the unit operating the motorcycle may, at his discretion, waive having that portion of the service work performed again until the next specified odometer reading.
8. Motorcycle "M" number and date it was placed in service shall be entered in the space provided.
9. When major repairs are performed, pertinent information pertaining to the same shall be recorded in the space provided.
10. It will be necessary to adjust the tension of the rear chain and cam chain more frequently than called for in the Preventive Maintenance Instruction Chart. The necessity of adjusting the chains will vary with the rider and other conditions, and this operation shall be performed as needed.
11. In addition to the preventive maintenance instructions contained herein, it is highly recommended that each officer inspect his motorcycle daily to make sure all emergency equipment is operational and that the motorcycle is safe to use for enforcement purposes. This should include, but not be limited to, the following visual and mechanical inspections:

<ol style="list-style-type: none"> A. Condition of tires and pressure. B. Level of oil in tank and oil leaks. C. Operation of controls. D. Check for loose equipment devices and components. 	<ol style="list-style-type: none"> E. Operation of siren and red lights. F. Operation of front and rear brakes. G. Operation of headlights, tail lights, stop lights, turn indicators and horn. H. Lubrication of drive chain and adjustment.
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FOOTNOTES

1. **Engine Oil Change:** Draining the oil should be performed while the engine is still warm. Oil should be drained from oil filter and engine crankcase. Refill use 20W-50 premium service type oil.
Oil Filter: Replace oil filter with new element.
2. **Lubrication & Operational Check:** Lubricate rear fork bushings. Check operation of rear brake linkage, clutch and shift linkage, lubricate as necessary.
3. **Air Cleaner:** Clean only. Replace only when condition indicates.
4. Check chain for adjustment, condition, and proper lubrication. If extremely dirty or rusted, remove, clean and service as recommended by manufacturer.
5. Adjust cam chain.
6. Check condition and gap setting.
7. **Clean & Regap Spark Plugs:** Replace only if necessary. Check timing. Make necessary adjustment.
8. Check or adjust valve lifter clearance.
9. Check level of electrolyte and condition of battery. Add water if necessary.
10. Check operation of brakes, check front brake pads, front brake hydraulic fluid level, replenish if necessary. Inspect rear brakes at 6,000 miles, or at tire replacement, for wear, make a judgment when next inspection should be made and note.
11. Check condition of wheels and tires.
12. Check wheel hub bearing when wheels are removed for other services. Lubricate when conditions warrant.
13. Inspect rear shocks.
14. Check rear fork. (Torque to 108 ft. lbs.)
15. Check steering head bearing adjustment.
16. Adjust and service as needed.
17. Make operational check and inspection of entire motorcycle for any defects. Check lights. Advise motorcycle officer of any repairs or maintenance which it is believed should be performed. Wipe all excess grease or oil from points serviced.
18. **Road Test Motorcycle:** Check out engine performance, brake performance, handling. Report discrepancies and make recommendations.

*NOTE: Fork Oil: Do not drain. Service only when need is indicated such as leaking seals or soft action. If it appears that motorcycle will run a considerable distance beyond 40,500, then at the discretion of the Commander responsible for the motorcycle, maintenance shall continue in accordance with the established schedule.