

DIRECTOR GENERAL BORDER ROADS
GENERALS MAINTENANCE INSTRUCTION NO. 89
ON
MAINTENANCE AND LUBRICATION
OF
ROAD ROLLER AGRIND MOORE 8-12 TONS

Introduction :-

1. Regular servicing and periodical maintenance are essential to prolong its life of the equipment, ensure timely repairs to arrest defects from developing into majors ones, to work the equipment effectively at all times, minimize inopportune breakdowns and downtime losses

Aim :-

2. (a) To enumerate the details of periodic and preventive maintenance and lubrication of ROAD ROLLER AGRIND MOORE 8-12 TONS .
- (b) Issue CHECK CARD for use by Mobile Maintenance Team.

Action By :-

3. (a) User Units :- To carry out periodic Inspection, regular servicing and preventive maintenance tasks as laid down.
- (b) Field Workshops (GREF) :-
 - (i) To check the 'Record of Maintenance and Lubrication' in the log book of the eqpt during its inspection and repairs, if carried out as per Maintenance and Lubrication schedules given in this instruction.
 - (ii) Advise user units in respect of any discrepancy noticed.

Details :-

4. Details of Maintenance and Lubrication alongwith the periodicity have been tabulated in Appendix 'A' to this instruction.

PREVENTIVE MAINTENANCE – ROAD ROLLER AGRIND MOORE 8-10 TONS

S/No.	Item/Assys	Maintenance Instruction	Lubrication	No of points
1	2	3	4	5
		08 HOURS TASK		
1	General	(a) Check oil, water or gas for leaks (b) Check for exhaust smoke colour, noise or vibration (c) Read all gauges & meters (d) Check all bolts and nuts if loose or deficient		
2	Engine	Check oil level in oil sump and top up if necessary	Engine oil	1
3	Air cleaner	Check oil level and top up if necessary	Engine oil	1
4	Cooling system	Top up water level if necessary		1
5	Fuel tank	(a) Fill up tank with clean fuel using a funnel with fine meshed wire strainer (b) Drain sediments and water		1
6	Fuel filter	Drain sediments and water		1
7	Front rollers and yoke	Lubricate with grease	Grease	4
8	Head casting	Lubricate with grease	Grease	1
9	Steering hinge bearing Universal Pedestal and bearing	Lubricate with grease	Grease	4
10	Foot brake pedal and linkages	Lubricate with grease	Grease	1
11	Hand brake lever cross shaft bearings and cables	Lubricate with grease	Grease	4
12	Rear Roller axle	Lubricate with grease	Grease	4
13	Final drive gears	Lubricate with grease	Grease	2

Note :-

1. Engine and Air Cleaner - Oil Grades

- | | | |
|------------------------------------|------------------|-------------------------|
| | <u>Diesel</u> | <u>Petrol</u> |
| (a) From 0 Degree F to 20 Degree C | - Use SAE 10W HD | SAE 10W |
| (b) From 20 Degree to 90 Degree C | - Use SAE-20 HD | SAE 20 20W
or 20W HS |
| (c) Above 90 Degree F | - Use SAE-30 HS | SAE 30 |

2. Transmission – Oil Grade

- | | | |
|--------------------------------|---|----------------------|
| (a) Above 15 Degree C | - | Use SAE 90/Hypoid 90 |
| (b) 15 Degree to – 15 Degree C | - | Use SAE 80/Hypoid 75 |

3. Grease Points – Grease Grades

Grease No. 2

50 HOURS TASKS

1	-	Carry out 8 hours tasks.		
2	Air cleaner	Wash the gauge element in petrol of fuel oil and preferable dry it with compressed air. Thoroughly clean out the body and refill it to the level indicated	Engine oil	1

3	Mechanical Governor	Check oil level and top up if necessary (Do not over fill) (for Diesel Engine only)	Engine oil	1
4	Distributor (Petrol Engine)	(a) Screw up the lubricator or grease cup one turn. (b) Remove the rotor and add two drops of oil to the cam spindle (c) Add a film of oil to the contact breaker pivot post	Engine oil Engine oil	1 1
5	Battery	Top up with distilled water and clean the terminals		2
6	Transmission	Check oil level and top up if necessary	Gear oil	1

Note :-

1. Engine and Air Cleaner - Oil Grades

	Diesel	Petrol
(a) From 0 Degree F to 20 Degree C	- Use SAE 10W HD	SAE 10W
(b) From 20 Degree to 90 Degree C	- Use SAE-20 HD	SAE 20 20W or 20W HS
(c) Above 90 Degree F	- Use SAE-30 HS	SAE 30

2. Transmission – Oil Grade

(a) Above 15 Degree C	-	Use SAE 90/Hypoid 90
(b) 15 Degree to – 15 Degree C	-	Use SAE 80/Hypoid 75

3. Grease Points – Grease Grades

Use Grease No. 2

100 HOURS TASKS

1	-	Carry out 8 hours and 50 hours tasks.		
2	Engine	Change oil	Engine oil	1
3	Air cleaner	Clean element and change the oil	Engine oil	1
4	Oil filter	Clean element		1
5	Fuel filter	Clean pre-filter element		1
6	C.B. Point	Adjust gap 0.014" to 0.016" (.36 to .41 mm)		

Note :-

1. Engine and Air Cleaner - Oil Grades

	Diesel	Petrol
(a) From 0 Degree F to 20 Degree C	- Use SAE 10W HD	SAE 10W
(b) From 20 Degree to 90 Degree C	- Use SAE-20 HD	SAE 20 20W or 20W HS
(c) Above 90 Degree F	- Use SAE-30 HS	SAE 30

2. Transmission – Oil Grade

(a) Above 15 Degree C	-	Use SAE 90/Hypoid 90
(b) 15 Degree to – 15 Degree C	-	Use SAE 80/Hypoid 75

3. Grease Points – Grease Grades

Use Grease No. '3' at all temperature

4. Change engine oil early under adverse working condition.

5. Inspect drained engine oil for metal partials.

200 HOURS TASKS

1	-	Carry out 8 hours, 50 hours and 100 hours tasks.		
2	Engine	Drain flush and refill engine oil	Engine oil	1
3	Engine oil filter cap	Clean element and refill oil up to correct level	Engine oil	1
4	Oil filter	Wash body and change element		
5	Governor (for Diesel engine only)	Clean breather element and oil lightly	Engine oil	1
6	Fuel lift pump	Clean filter screen and fit new cork gasket		
7	Generator	Refill grease on dynamo	Grease	1

Note :-

1. Engine and Air Cleaner - Oil Grades

	<u>Diesel</u>	<u>Petrol</u>
(a) From 0 Degree F to 20 Degree C	- Use SAE 10W HD	SAE 10W
(b) From 20 Degree to 90 Degree C	- Use SAE-20 HD	SAE 20 20W or 20W HS
(c) Above 90 Degree F	- Use SAE-30 HS	SAE 30

2. Transmission – Oil Grade

(a) Above 15 Degree C	-	Use SAE 90/Hypoid 90
(b) 15 Degree to – 15 Degree C	-	Use SAE 80/Hypoid 75

3. Grease Points – Grease Grades

Use Grease No. 2 at all temperature.

400 HOURS TASKS

1	-	Carry out 8 hours, 50 hours, 100 hours and 200 hours tasks.
2	Engine	(a) Remove sump and clean (b) Clean oil strainer in sump
3	Fuel tank	Remove and clean
4	Cooling system	Flush out radiators
5	Fuel filter	Change elements
6	Injectors	Test and adjust if necessary

Note :-

1. Engine and Air Cleaner - Oil Grades

	<u>Diesel</u>	<u>Petrol</u>
(a) From 0 Degree F to 20 Degree C	- Use SAE 10W HD	SAE 10W
(b) From 20 Degree to 90 Degree C	- Use SAE-20 HD	SAE 20 20W or 20W HS
(c) Above 90 Degree F	- Use SAE-30 HS	SAE 30

2. Transmission – Oil Grade

(a) Above 15 Degree C	-	Use SAE 90/Hypoid 90
(b) 15 Degree to – 15 Degree C	-	Use SAE 80/Hypoid 75

3. Grease Points – Grease Grades

Use Grease No. 2 at all temperature.

1000 HOURS TASKS

1	-	Carry out 8 hours, 50 hours, 100 hours, 200 hours and 400 hours tasks.		
2	Transmission	Change oil	Gear oil	1
3	Fuel filter	Change paper element		

Note :-

1. Engine and Air Cleaner - Oil Grades

- | | <u>Diesel</u> | <u>Petrol</u> |
|------------------------------------|------------------|-------------------------|
| (a) From 0 Degree F to 20 Degree C | - Use SAE 10W HD | SAE 10W |
| (b) From 20 Degree to 90 Degree C | - Use SAE-20 HD | SAE 20 20W
or 20W HS |
| (c) Above 90 Degree F | - Use SAE-30 HS | SAE 30 |

2. Transmission – Oil Grade

- | | | |
|--------------------------------|---|----------------------|
| (a) Above 15 Degree C | - | Use SAE 90/Hypoid 90 |
| (b) 15 Degree to – 15 Degree C | - | Use SAE 80/Hypoid 75 |

3. Grease Points – Grease Grades

Use Grease No. 2 at all temperature.

**CHECK CARD : PREVENTIVE MAINTENANCE
(ORIGINAL/DUPLICATE)**

- | | | |
|--------------------|--|---|
| 1. Project | 4. Make & Type ROAD ROLLER
AGRIND MOORE 8-12 TONS | Action
After carrying out the
preventative
maintenance Task,
IC Mobile maintenance team will enter its date in the month's column below and initial. |
| 2. Task Force..... | 5. BA/EM NO. | |
| 3. Unit | 6. Location | |

Srl No.	Tasks	J	F	M	A	M	J	J	A	S	O	N	D
1	08 Hours												
	(a)												
	(b)												
	(c)												
	(d)												
	(e)												
	(f)												
	(g)												
	(h)												
	(j)												
2	50 Hours												
	(a)												
	(b)												
	(c)												
	(d)												
3	100 Hours												
	(a)												
	(b)												
4	200 Hours												
	(c)												
5	400 Hours												
6	1000 Hours												

Signature of SO1/SO2 EME Project

Date

Remarks

Note : Column 'J' to 'D' stands for months of the year.