MOVES5 : **CHEAT SHEET (Nonroad)**

Fuel Type

ID	fuelType
1	Gasoline
3	Compressed Natural Gas (CNG)
4	Liquefied Petroleum Gas (LPG)
23	Nonroad Diesel Fuel
24	Marine Diesel Fuel

Activity Type

ID	Activity Type
2	Source Hours
6	Population
9	Average Horsepower
12	Load Factor

Emission Process

ID	Process Name
1	Running Exhaust
15	Crankcase Running Exhaust
18	Refueling Displacement Vapor Loss
19	Refueling Spillage Loss
20	Evap Tank Permeation
21	Evap Hose Permeation
30	Diurnal Fuel Vapor Venting
31	Hot Soak Fuel Vapor Venting
32	Running Loss Fuel Vapor Venting

Horsepower Range Bin

ID	Horsepower Range
1	0 < hp ≤ 1
3	1 < hp ≤ 3
6	3 < hp ≤ 6
11	6 < hp ≤ 11
16	11 < hp ≤ 16
25	16 < hp ≤ 25
40	25 < hp ≤ 40
50	40 < hp ≤ 50
75	50 < hp ≤ 75
100	75 < hp ≤ 100
175	100 < hp ≤ 175
300	175 < hp ≤ 300
600	300 < hp ≤ 600
750	600 < hp ≤ 750
1000	750 < hp ≤ 1000
1200	1000 < hp ≤ 1200
2000	1200 < hp ≤ 2000
3000	2000 < hp ≤ 3000

Nonroad SCC

Fueltype/EngineType

FF	Description	Nonroad FuelType
60	Gasoline / 2-Stroke	1
65	Gasoline / 4-Stroke	1
67	LPG	4
68	CNG	3
70	Off-highway Diesel	23
82	Pleasure Craft	
85	Railroad Equipment	

Sector

Equipment Sector	SCC Pattern	Nonroad Sector ID
Recreational	22FF**001**0zz	1
Construction	22FF**002**0zz	2
Industrial	22FF**003**0zz	3
Lawn/Garden	22FF**004**0zz	4
Agriculture	22FF**005**0zz	5
Commercial	22FF**006**0zz	6
Logging	22FF**007**0zz	7
Airport Support	22FF**008**005	8
Underground Mining	22FF**009**010	9
Oil Field	22FF**010**010	10
Pleasure Craft	22**82**xxxzzz	11
Railroad Equipment	22**85**xxx015	12

Pleasure Craft and Rail Equipment FuelType/EngineType

xxx	Sector	Description	Nonroad FuelType
005	Pleasure Craft	Gasoline / 2-Stroke	1
010	Pleasure Craft	Gasoline / 4-Stroke	1
020	Pleasure Craft	Marine Diesel Fuel	24
003	Railroad Equip.	Gasoline / 2-Stroke	1
004	Railroad Equip.	Gasoline / 4-Stroke	1
006	Railroad Equip.	LPG	4
008	Railroad Equip.	CNG	3
002	Railroad Equip.	Off-highway Diesel	23

MOVES5
Motor Vehicle Emission Simulator

3/14/2024

MOVES5 : **CHEAT SHEET (Nonroad)**

Nonroad Equipment Types

ID	Sector ID	Description	ID	Sector ID	Description	ID	Sector ID	Description	ID	Sector ID	Description
1	1	Snowmobiles	23	2	Dumpers/Tenders	45	4	Rear Engine Riding Mowers (com)	67	6	Gas Compressors
2	1	Offroad Motorcycles	24	2	Other Construction Equipment	46	4	Front Mowers (com)	68	6	Welders
3	1	All Terrain Vehicles	25	3	Aerial Lifts	47	4	Shredders < 6 HP (com)	69	6	Pressure Washers
4	1	Golf Carts	26	3	Forklifts	48	4	Lawn & Garden Tractors (res)	70	6	Hydro Power Units
5	1	Specialty Vehicle Carts	27	3	Sweepers/Scrubbers	49	4	Lawn & Garden Tractors (com)	71	7	Chain Saws > 6 HP
6	2	Pavers	28	3	Other General Industrial Eqp	50	4	Chippers/Stump Grinders (com)	72	7	Shredders > 6 HP
7	2	Tampers/Rammers	29	3	Other Material Handling Eqp	51	4	Commercial Turf Equipment (com)	73	7	Forestry Equipment
8	2	Plate Compactors	30	3	ACRefrigeration	52	4	Other Lawn & Garden Eqp. (res)	74	8	Airport Support
9	2	Rollers	31	3	Terminal Tractors	53	4	Other Lawn & Garden Eqp. (com)	75	10	Other Oil Field Equipment
10	2	Paving Equipment	32	4	Lawn mowers (res)	54	5	2-Wheel Tractors	76	2	Scrapers
11	2	Surfacing Equipment	33	4	Lawn mowers (Com)	55	5	Agricultural Tractors	77	2	Excavators
12	2	Signal Boards/Light Plants	34	4	Rotary Tillers < 6 HP (res)	56	5	Combines	78	2	Graders
13	2	Trenchers	35	4	Rotary Tillers < 6 HP (com)	57	5	Balers	79	2	Off-highway Trucks
14	2	Bore/Drill Rigs	36	4	Chain Saws < 6 HP (res)	58	5	Agricultural Mowers	80	2	Rough Terrain Forklifts
15	2	Concrete/Industrial Saws	37	4	Chain Saws < 6 HP (com)	59	5	Sprayers	81	2	Crawler Tractor/Dozers
16	2	Cement & Mortar Mixers	38	4	Trimmers/Edgers/Brush Cutter (res)	60	5	Tillers > 6 HP	82	2	Off-Highway Tractors
17	2	Cranes	39	4	Trimmers/Edgers/Brush Cutter (com)	61	5	Swathers	83	4	Commercial Mowers
18	2	Crushing/Proc. Equipment	40	4	Leafblowers/Vacuums (res)	62	5	Other Agricultural Equipment	84	9	Underground Mining
19	2	Rough Terrain Forklift	41	4	Leafblowers/Vacuums (com)	63	5	Irrigation Sets	85	11	Outboard
20	2	Rubber Tire Loaders	42	4	Snowblowers (res)	64	6	Generator Sets	86	11	Personal Watercraft
21	2	Tractors/Loaders/Backhoes	43	4	Snowblowers (com)	65	6	Pumps	87	11	Inboard/Sterndrive
22	2	Skid Steer Loaders	44	4	Rear Engine Riding Mowers (res)	66	6	Air Compressors	88	12	Railway Maintenance

Nonroad Sector

ID	Sector	ID	Sector
1	Recreational	7	Logging
2	Construction	8	Airport Support
3	Industrial	9	Underground Mining
4	Lawn/Garden	10	Oil Field
5	Agriculture	11	Pleasure Craft
6	Commercial	12	Railroad Equipment

MOVES5
Motor Vehicle Emission Simulator

Note: The MOVES Onroad Cheat Sheet describes all the Onroad and Nonroad pollutant ids.