

Motorcycles registered in the United States, 2002–2021

March 2021

Eric R. Teoh



Insurance Institute for Highway Safety

4121 Wilson Boulevard, 6th floor

Arlington, VA 22203

researchpapers@iihs.org

+1 703 247 1500

iihs.org



Overview

The following tables summarize the U.S. motorcycle population between 2002 and 2021, based on Institute analyses of data provided by IHS Markit. Registration counts as of January 1 of each year were provided by year, state, and Vehicle Identification Number (VIN) pattern (first 10 digits). Software developed and maintained by the Highway Loss Data Institute (HLDI) was used to decode VIN patterns to determine make, series, and model year, and to append information maintained by HLDI on motorcycle type and antilock braking system (ABS) availability. Only on-road classes of motorcycles were included.

Since the VIN information is constantly improving, counts in this paper differ slightly from the previous versions.

Selected observations

- The number of on-road motorcycles registered in the U.S. has been generally increasing throughout these years, approximately doubling from 4.3 million in 2002 to 8.6 million in 2021 (Tables 1a and 1b). Registrations declined slightly from 2020 to 2021, possibly due to the COVID-19 pandemic.
- California and Florida have the largest number of registered motorcycles by large margins.
- Cruisers and touring bikes are the largest classes of registered motorcycles (Table 2).
- Choppers are a relatively new class designation from manufacturers. This class probably is undercounted, as similar motorcycles are custom builds and not identifiable from VIN numbers.
- Scooter registrations have been increasing but also may be undercounted, as many have engines smaller than 50 cubic centimeters (cc) and state laws (including registration requirements) vary widely for vehicles with such small engines.
- Antilock braking system (ABS) availability has increased greatly among the on-road motorcycle fleet, from standard on 0.2% of registered motorcycles in 2002 to 16.1% in 2021 (Table 3). Similarly, registered motorcycles for which ABS was an optional feature increased from 1.6% in 2002 to 16.9% in 2021.
- The average age of registered motorcycles has increased from 9.0 years in 2002 to 13.1 years in 2021 (Table 4b). Half of motorcycles registered in 2021 were at least 13 years old.

Table 1a.**On-road motorcycles registered in the United States by state, 2002–10**

	2002	2003	2004	2005	2006	2007	2008	2009	2010
Alabama	58,694	67,184	77,536	89,050	102,320	114,677	126,402	139,225	144,208
Alaska	12,924	14,156	15,531	16,805	18,150	19,681	21,174	22,611	23,600
Arizona	75,497	82,919	91,947	102,069	115,940	131,308	143,335	154,610	158,138
Arkansas	32,008	37,153	42,647	48,558	56,517	63,854	71,496	80,523	82,682
California	409,170	452,681	502,573	557,583	617,180	673,831	722,229	775,701	783,489
Colorado	103,890	114,135	122,709	131,355	140,229	149,756	160,599	170,964	172,732
Connecticut	56,427	62,130	67,958	72,889	77,730	83,123	87,816	91,695	92,177
Delaware	12,701	13,973	15,421	17,101	19,046	20,955	22,060	23,483	23,975
District of Columbia	2,422	2,648	2,713	2,621	2,730	3,021	3,336	3,535	3,742
Florida	238,820	271,362	311,813	359,659	417,133	473,523	511,491	551,179	550,004
Georgia	98,211	112,205	126,742	142,463	158,103	175,092	189,941	206,780	208,527
Hawaii	17,138	18,421	19,774	20,920	22,751	24,134	25,205	26,554	26,657
Idaho	28,461	30,883	33,768	36,991	41,233	46,421	51,774	57,814	58,155
Illinois	205,683	222,112	240,088	255,537	264,475	285,766	311,600	332,409	335,750
Indiana	118,795	130,653	141,473	152,068	161,735	170,460	179,996	194,205	199,183
Iowa	74,066	79,552	86,896	94,717	102,737	111,266	120,144	130,457	136,221
Kansas	46,926	51,267	56,365	62,024	68,223	75,338	82,423	91,207	95,461
Kentucky	52,124	61,605	71,224	80,807	90,451	99,105	108,046	115,526	118,430
Louisiana	49,998	56,776	63,280	69,117	74,857	83,355	89,502	96,601	98,658
Maine	22,106	26,933	30,636	35,217	39,355	42,545	40,769	50,376	52,878
Maryland	65,010	73,711	82,324	92,192	102,070	112,007	120,348	126,119	127,918
Massachusetts	93,962	105,524	115,736	122,606	127,183	131,925	135,673	139,405	139,782
Michigan	174,129	188,345	202,701	216,054	228,661	240,513	253,222	265,004	263,074
Minnesota	123,046	135,914	148,534	161,098	172,381	183,879	196,063	210,203	213,882
Mississippi	25,266	29,144	33,428	37,851	42,560	48,046	52,339	57,675	58,283
Missouri	67,530	75,856	84,812	94,797	105,770	117,369	127,557	138,521	142,280
Montana	19,125	21,324	24,997	28,542	22,317	24,417	26,616	30,501	32,959
Nebraska	23,322	26,205	29,660	33,355	37,050	41,136	45,163	49,843	52,560
Nevada	34,013	37,874	41,914	47,612	54,001	59,889	64,776	67,942	67,592
New Hampshire	45,470	41,620	41,373	53,476	67,301	71,575	74,047	76,398	75,916
New Jersey	106,002	117,204	128,525	137,960	148,398	153,980	162,878	166,788	165,331
New Mexico	32,688	36,046	40,031	43,824	48,446	53,941	59,683	66,160	68,241
New York	244,245	259,518	258,953	276,257	293,390	293,468	311,436	330,756	339,206
North Carolina	122,612	138,582	150,699	167,173	184,933	202,747	219,013	235,099	233,743
North Dakota	13,439	14,911	16,574	18,575	20,772	23,205	25,821	28,785	30,137
Ohio	223,253	242,831	262,045	281,100	301,260	321,207	343,530	366,637	369,033
Oklahoma	51,337	58,296	65,135	71,898	79,548	90,681	100,913	111,388	114,841
Oregon	63,459	68,282	73,749	78,188	84,122	91,829	100,429	111,389	115,986
Pennsylvania	212,785	234,288	254,024	279,923	307,819	335,557	355,034	381,740	396,153
Rhode Island	17,214	19,168	21,113	23,153	24,978	26,671	28,004	29,150	29,302
South Carolina	61,830	68,953	73,930	80,679	88,563	98,173	107,587	116,372	114,213
South Dakota	22,397	24,785	27,311	29,838	32,610	35,432	38,155	41,088	42,447
Tennessee	76,013	85,086	95,340	108,578	124,291	140,291	156,444	171,400	172,139
Texas	212,733	241,341	273,514	306,371	347,123	388,424	427,935	478,925	483,337
Utah	36,197	39,823	44,514	49,448	55,213	63,004	72,627	85,579	90,579
Vermont	14,703	16,428	17,963	19,346	20,975	22,940	24,760	26,595	26,971
Virginia	94,301	106,590	118,985	134,138	149,484	164,825	178,249	190,915	195,145
Washington	117,346	127,162	139,220	154,750	172,419	192,155	209,948	229,167	233,916
West Virginia	25,831	29,568	33,041	37,067	41,505	46,199	51,042	55,683	56,865
Wisconsin	171,755	182,212	200,074	211,339	230,616	244,987	265,134	281,638	293,640
Wyoming	13,733	15,444	17,243	18,955	20,760	23,059	25,649	27,957	28,428
Total	4,320,807	4,770,783	5,238,556	5,763,694	6,327,414	6,890,742	7,429,413	8,010,277	8,138,566

Table 1b.**On-road motorcycles registered in the United States by state, 2011–21**

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Alabama	148,464	152,662	156,787	160,407	163,696	166,856	171,049	173,405	173,652	171,077	167,021
Alaska	23,974	24,465	25,154	25,635	25,813	25,929	26,201	25,268	24,340	23,918	23,068
Arizona	160,926	166,608	174,184	184,013	191,183	200,416	207,375	206,093	212,951	216,705	222,484
Arkansas	82,147	81,054	78,846	78,179	76,825	75,234	74,292	72,648	71,764	70,586	72,474
California	784,069	799,225	822,956	862,435	896,327	933,640	958,996	954,623	957,620	957,873	952,977
Colorado	171,710	170,041	171,143	178,701	182,070	186,410	187,717	188,844	189,449	202,474	201,364
Connecticut	91,500	89,251	92,700	92,065	92,111	92,113	94,042	92,637	91,296	89,805	88,061
Delaware	24,549	25,805	26,329	26,633	26,859	27,069	27,041	26,621	26,571	26,594	26,729
District of Columbia	4,005	4,283	4,453	5,014	5,152	5,224	5,180	5,326	5,290	5,254	5,020
Florida	539,303	544,830	542,791	560,535	578,030	595,615	602,384	598,418	601,849	620,892	645,012
Georgia	209,945	209,465	206,857	205,552	207,993	210,817	209,760	214,215	214,722	218,478	227,548
Hawaii	26,740	26,746	24,030	29,276	31,350	28,468	32,652	55,722	59,614	36,012	34,781
Idaho	56,519	58,792	57,753	60,601	62,528	63,985	64,576	64,982	66,797	68,020	69,009
Illinois	336,611	325,703	319,743	321,777	319,952	318,514	297,482	301,698	299,528	303,917	284,754
Indiana	199,412	202,438	203,427	206,853	210,431	229,625	234,637	232,698	229,343	230,658	234,393
Iowa	140,256	144,087	147,226	151,662	155,940	159,424	162,526	163,272	164,643	168,488	168,413
Kansas	98,400	100,563	101,478	102,877	103,812	104,045	104,273	103,735	103,165	102,181	100,662
Kentucky	117,904	118,248	117,196	117,738	119,529	119,243	118,102	117,182	115,832	118,656	121,729
Louisiana	97,875	91,811	89,822	92,623	92,443	92,375	90,244	87,496	84,899	82,226	80,456
Maine	49,036	52,784	56,680	54,967	57,842	57,941	57,393	56,473	60,103	61,392	59,995
Maryland	126,693	124,451	121,480	122,724	123,516	121,191	118,808	114,970	113,109	111,553	113,716
Massachusetts	138,446	141,992	141,338	142,068	143,415	145,618	146,846	146,490	145,532	144,633	147,846
Michigan	259,341	254,419	250,258	249,321	247,034	247,517	250,520	249,721	248,058	245,079	234,781
Minnesota	214,204	210,864	209,746	213,835	218,577	219,453	214,657	185,094	209,731	208,363	203,521
Mississippi	57,910	55,013	51,818	53,074	52,978	51,771	50,570	50,433	50,284	50,443	51,458
Missouri	143,096	141,257	136,469	138,178	139,131	139,244	139,863	137,158	135,917	131,772	126,799
Montana	34,407	35,667	39,045	46,976	50,795	54,247	57,516	59,767	62,645	65,430	68,439
Nebraska	53,903	53,221	52,664	54,298	54,783	54,138	55,063	53,888	53,998	57,371	57,388
Nevada	66,353	65,491	65,727	68,977	71,587	73,743	74,506	75,673	77,629	82,090	82,998
New Hampshire	74,732	74,222	74,554	75,293	76,621	78,447	80,188	81,505	82,637	83,272	84,453
New Jersey	159,710	163,186	158,958	158,749	158,737	160,832	161,674	161,318	161,241	162,148	154,288
New Mexico	69,465	66,816	66,406	67,085	67,549	66,822	61,848	63,409	63,722	64,578	64,600
New York	343,631	338,302	354,338	359,890	361,385	365,162	370,339	370,061	369,328	368,838	363,573
North Carolina	224,271	223,994	216,313	216,720	215,016	240,871	254,646	238,591	237,055	243,437	250,075
North Dakota	30,576	32,668	28,178	34,504	36,696	37,820	37,770	37,642	37,442	37,084	35,373
Ohio	368,254	365,690	370,417	375,537	383,214	386,626	391,785	390,310	392,782	392,928	389,657
Oklahoma	116,543	116,953	117,653	120,524	123,037	123,831	122,621	120,560	118,018	118,480	119,444
Oregon	115,836	116,102	113,099	119,510	122,092	124,790	127,630	129,131	130,942	131,457	129,304
Pennsylvania	407,410	409,547	408,852	412,287	367,548	381,500	391,653	394,526	398,363	400,550	385,159
Rhode Island	29,249	28,728	28,649	28,757	29,249	28,623	28,933	28,947	28,194	27,516	27,391
South Carolina	108,405	112,716	103,317	115,488	128,791	135,308	137,681	134,850	140,702	146,213	148,851
South Dakota	43,182	44,600	45,541	47,530	48,781	49,860	49,576	50,571	51,121	51,227	51,026
Tennessee	171,042	167,240	165,124	158,584	148,819	148,819	148,819	148,819	148,819	148,819	148,819
Texas	473,664	452,240	435,291	446,109	452,517	402,462	386,659	378,179	377,120	393,897	380,830
Utah	95,242	100,118	99,368	98,694	92,136	87,785	87,591	87,419	89,646	93,185	96,664
Vermont	26,859	25,576	24,961	24,977	24,860	24,976	24,735	24,262	24,108	24,054	22,848
Virginia	193,605	189,605	191,586	191,087	201,148	205,882	205,807	201,957	197,135	196,469	188,042
Washington	232,809	237,681	234,764	234,652	238,553	244,463	246,391	230,962	246,264	241,849	242,723
West Virginia	56,450	57,315	54,580	54,082	53,489	53,557	53,219	52,801	52,196	52,915	49,563
Wisconsin	304,698	298,200	312,573	307,261	318,983	310,952	323,176	311,042	324,126	311,849	319,907
Wyoming	28,159	26,527	25,933	26,392	26,492	26,827	25,890	25,305	25,600	24,958	25,177
Total	8,131,490	8,119,262	8,118,555	8,280,706	8,377,085	8,429,085	8,443,230	8,356,627	8,479,144	8,603,203	8,575,569

Table 2.

On-road motorcycles registered in the United States by type of motorcycle, 2002–21

	Chopper		Standard		Cruiser		Touring		Sport touring		Unclad sport		Sport		Supersport		Dual purpose		Scooter		Total	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%
2002	0	0.0	471,300	10.9	2,059,345	47.7	626,302	14.5	36,113	0.8	33,010	0.8	307,368	7.1	376,308	8.7	191,539	4.4	219,522	5.1	4,320,807	100.0
2003	746	0.0	459,767	9.6	2,322,831	48.7	701,567	14.7	43,242	0.9	48,559	1.0	325,112	6.8	426,084	8.9	206,734	4.3	236,141	4.9	4,770,783	100.0
2004	3,826	0.1	442,905	8.5	2,593,406	49.5	780,756	14.9	52,755	1.0	65,798	1.3	338,764	6.5	479,292	9.1	222,170	4.2	258,884	4.9	5,238,556	100.0
2005	9,531	0.2	432,210	7.5	2,881,995	50.0	868,197	15.1	62,181	1.1	85,845	1.5	353,413	6.1	543,427	9.4	240,694	4.2	286,201	5.0	5,763,694	100.0
2006	16,170	0.3	419,368	6.6	3,167,068	50.1	966,226	15.3	71,369	1.1	106,132	1.7	372,101	5.9	615,877	9.7	264,548	4.2	328,555	5.2	6,327,414	100.0
2007	21,415	0.3	400,216	5.8	3,430,318	49.8	1,075,683	15.6	80,514	1.2	124,237	1.8	395,681	5.7	689,725	10.0	293,288	4.3	379,665	5.5	6,890,742	100.0
2008	24,752	0.3	387,938	5.2	3,668,662	49.4	1,177,924	15.9	90,559	1.2	142,437	1.9	416,168	5.6	759,297	10.2	324,248	4.4	437,428	5.9	7,429,413	100.0
2009	26,397	0.3	376,793	4.7	3,879,427	48.4	1,265,171	15.8	104,473	1.3	163,481	2.0	437,280	5.5	807,326	10.1	362,522	4.5	587,407	7.3	8,010,277	100.0
2010	29,739	0.4	355,902	4.4	3,909,555	48.0	1,327,893	16.3	113,153	1.4	173,372	2.1	435,422	5.4	798,585	9.8	375,697	4.6	619,248	7.6	8,138,566	100.0
2011	31,535	0.4	334,460	4.1	3,876,372	47.7	1,377,289	16.9	121,784	1.5	176,984	2.2	425,480	5.2	775,228	9.5	380,839	4.7	631,519	7.8	8,131,490	100.0
2012	32,618	0.4	314,945	3.9	3,813,799	47.0	1,430,785	17.6	131,048	1.6	181,085	2.2	420,300	5.2	743,697	9.2	391,016	4.8	659,969	8.1	8,119,262	100.0
2013	33,009	0.4	300,744	3.7	3,753,590	46.2	1,487,578	18.3	139,855	1.7	182,756	2.3	417,545	5.1	712,549	8.8	405,385	5.0	685,544	8.4	8,118,555	100.0
2014	33,568	0.4	297,889	3.6	3,758,699	45.4	1,580,893	19.1	150,944	1.8	189,064	2.3	422,835	5.1	701,964	8.5	434,743	5.3	710,107	8.6	8,280,706	100.0
2015	33,744	0.4	291,961	3.5	3,727,510	44.5	1,659,823	19.8	161,922	1.9	202,818	2.4	423,797	5.1	687,977	8.2	457,497	5.5	730,036	8.7	8,377,085	100.0
2016	33,662	0.4	292,242	3.5	3,660,017	43.4	1,720,550	20.4	170,103	2.0	215,394	2.6	427,463	5.1	674,473	8.0	480,785	5.7	754,396	8.9	8,429,085	100.0
2017	33,622	0.4	295,577	3.5	3,601,571	42.7	1,771,975	21.0	175,580	2.1	229,448	2.7	427,845	5.1	652,510	7.7	503,185	6.0	751,917	8.9	8,443,230	100.0
2018	33,285	0.4	298,988	3.6	3,506,900	42.0	1,808,624	21.6	178,033	2.1	239,437	2.9	413,855	5.0	603,909	7.2	521,521	6.2	752,075	9.0	8,356,627	100.0
2019	33,276	0.4	320,591	3.8	3,498,494	41.3	1,882,533	22.2	181,918	2.1	255,161	3.0	417,676	4.9	585,172	6.9	554,356	6.5	749,967	8.8	8,479,144	100.0
2020	33,598	0.4	341,705	4.0	3,492,742	40.6	1,961,593	22.8	186,785	2.2	273,992	3.2	428,405	5.0	569,120	6.6	588,234	6.8	727,029	8.5	8,603,203	100.0
2021	32,564	0.4	360,587	4.2	3,417,816	39.9	1,982,184	23.1	189,027	2.2	288,953	3.4	431,773	5.0	540,414	6.3	621,228	7.2	711,023	8.3	8,575,569	100.0

Table 3.

On-road motorcycles registered in the United States by availability of antilock braking systems (ABS), 2002–21

	Standard		Optional		Not available		Total*	
	N	%	N	%	N	%	N	%
2002	7,718	0.2	58,260	1.6	3,652,193	98.2	4,320,807	100.0
2003	10,768	0.3	89,437	2.1	4,076,083	97.6	4,770,783	100.0
2004	14,362	0.3	124,062	2.7	4,522,548	97.0	5,238,556	100.0
2005	17,583	0.3	155,788	3.0	5,031,385	96.7	5,763,694	100.0
2006	21,394	0.4	187,003	3.2	5,581,126	96.4	6,327,414	100.0
2007	27,381	0.4	217,217	3.4	6,132,124	96.2	6,890,742	100.0
2008	33,820	0.5	279,350	4.0	6,626,093	95.5	7,429,413	100.0
2009	44,795	0.6	408,858	5.4	7,090,207	94.0	8,010,277	100.0
2010	56,592	0.7	507,420	6.6	7,136,426	92.7	8,138,566	100.0
2011	79,847	1.0	586,470	7.6	7,057,145	91.4	8,131,490	100.0
2012	126,825	1.6	675,902	8.7	6,933,049	89.6	8,119,262	100.0
2013	184,596	2.4	783,654	10.1	6,777,253	87.5	8,118,555	100.0
2014	264,814	3.3	918,195	11.6	6,728,754	85.0	8,280,706	100.0
2015	412,621	5.1	999,073	12.4	6,615,868	82.4	8,377,085	100.0
2016	571,261	7.1	1,062,714	13.1	6,460,410	79.8	8,429,085	100.0
2017	729,253	9.0	1,119,723	13.8	6,286,581	77.3	8,443,230	100.0
2018	874,754	10.8	1,176,649	14.6	6,030,216	74.6	8,356,627	100.0
2019	1,020,929	12.4	1,270,142	15.5	5,925,275	72.1	8,479,144	100.0
2020	1,188,381	14.2	1,365,600	16.3	5,805,067	69.4	8,603,203	100.0
2021	1,345,623	16.1	1,408,660	16.9	5,586,665	67.0	8,575,569	100.0

* Total includes motorcycles with unknown ABS availability.

Table 4a.

On-road motorcycles registered in the United States by vehicle age, 2002–21

	< 1 year		1–3 years		4–6 years		7–9 years		10+ years		Total*	
	N	%	N	%	N	%	N	%	N	%	N	%
2002	101,842	2.4	1,204,792	27.9	712,379	16.5	521,906	12.1	1,759,337	40.7	4,320,807	100.0
2003	105,201	2.2	1,413,910	29.6	820,381	17.2	575,471	12.1	1,836,115	38.5	4,770,783	100.0
2004	64,937	1.2	1,645,510	31.4	988,455	18.9	619,134	11.8	1,901,946	36.3	5,238,556	100.0
2005	109,969	1.9	1,749,710	30.4	1,211,471	21.0	677,107	11.7	1,997,841	34.7	5,763,694	100.0
2006	109,934	1.7	1,887,348	29.8	1,429,329	22.6	778,595	12.3	2,105,641	33.3	6,327,414	100.0
2007	101,433	1.5	1,958,848	28.4	1,695,742	24.6	934,332	13.6	2,185,014	31.7	6,890,742	100.0
2008	72,535	1.0	2,146,766	28.9	1,748,410	23.5	1,137,035	15.3	2,310,259	31.1	7,429,413	100.0
2009	78,114	1.0	2,208,658	27.6	1,880,851	23.5	1,337,671	16.7	2,491,605	31.1	8,010,277	100.0
2010	33,196	0.4	1,848,846	22.7	1,980,087	24.3	1,577,110	19.4	2,687,218	33.0	8,138,566	100.0
2011	32,197	0.4	1,356,964	16.7	2,191,994	27.0	1,609,394	19.8	2,930,020	36.0	8,131,490	100.0
2012	52,896	0.7	1,017,037	12.5	2,124,811	26.2	1,693,730	20.9	3,220,882	39.7	8,119,262	100.0
2013	35,833	0.4	827,698	10.2	1,900,201	23.4	1,744,369	21.5	3,601,306	44.4	8,118,555	100.0
2014	46,970	0.6	975,505	11.8	1,369,714	16.5	1,969,993	23.8	3,915,171	47.3	8,280,706	100.0
2015	37,436	0.4	1,097,653	13.1	1,010,722	12.1	1,925,946	23.0	4,302,953	51.4	8,377,085	100.0
2016	31,292	0.4	1,117,948	13.3	846,458	10.0	1,716,426	20.4	4,715,523	55.9	8,429,085	100.0
2017	30,856	0.4	1,090,999	12.9	990,681	11.7	1,219,530	14.4	5,109,832	60.5	8,443,230	100.0
2018	27,257	0.3	1,030,125	12.3	1,109,205	13.3	897,644	10.7	5,242,870	62.7	8,356,627	100.0
2019	28,168	0.3	970,037	11.4	1,130,012	13.3	767,254	9.0	5,470,076	64.5	8,479,144	100.0
2020	27,861	0.3	940,936	10.9	1,120,547	13.0	907,409	10.5	5,450,171	63.4	8,603,203	100.0
2021	18,226	0.2	933,961	10.9	1,055,987	12.3	1,011,850	11.8	5,363,896	62.5	8,575,569	100.0

* Total includes motorcycles with unknown model year.

Table 4b.

Average and median age (years) of on-road motorcycles registered in the United States, 2002–21

	Average	Median
2002	9.0	7
2003	8.8	7
2004	8.7	6
2005	8.6	6
2006	8.5	6
2007	8.4	6
2008	8.5	6
2009	8.5	6
2010	8.9	7
2011	9.4	7
2012	9.9	8
2013	10.4	9
2014	10.8	9
2015	11.1	10
2016	11.5	10
2017	11.9	11
2018	12.1	11
2019	12.4	12
2020	12.7	13
2021	13.1	13

HLDI Motorcycle Classification

Chopper



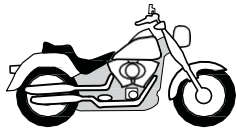
Chopper-style motorcycles are closely related to cruisers. They have a longer wheelbase that results from an extended front-fork configuration. The lengthened wheelbase reduces maneuverability. Choppers generally are highly customized and, as a result, more costly. As the term "chopper" implies, the motorcycle is derived by chopping off or removing parts from a typical cruiser with the intent of reducing weight or bulk for the sake of speed. Its reduced maneuverability is exaggerated further by a wide rear tire that assists in acceleration.

Standard



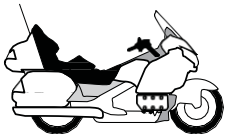
Standard motorcycle designs are basic and generally do not utilize technological advances in chassis and engine design. Many standard motorcycles are generic enough to remain in production for 10 years or more without a redesign. Riding position typically is upright and similar to that of a cruiser, but with foot pegs placed farther rearward. The riding position, coupled with better ground clearance than a cruiser, gives standard motorcycles better handling characteristics. Engine displacements are smaller than those for cruisers.

Cruiser



Cruiser motorcycles mimic the style of earlier American motorcycles from the 1930s to the early 1960s, such as those made by Harley-Davidson and Indian. Although cruisers have benefited from advances in technology and metallurgy, the basic design is still very similar to early motorcycles. The riding position places the feet forward of the seat and the hands near shoulder height, and the upper body is erect or leaning back slightly. This position allows long-distance comfort and compromises some degree of control. Cruisers have limited cornering ability because of a low-slung design. Cruiser engines produce more torque and less peak horsepower compared with motorcycles from the sport classes. Cruisers are among the heaviest of motorcycles and can be used with a sidecar.

Touring



Touring motorcycles are equipped with high-displacement/high-torque engines for carrying a passenger and luggage. The Honda Goldwing, which is one of the best-selling motorcycle in this class, has a 1,800 cubic centimeter engine. Touring motorcycles are among the longest and heaviest motorcycles. Honda Goldwings can weigh in excess of 900 pounds. Touring motorcycles offer wind protection for the rider, high-capacity fuel tanks, the ability to carry luggage, and an upright riding position that is comfortable for long distances. Although any motorcycle can be equipped and used

for touring, touring motorcycles are designed for this purpose. They incorporate technological advances such as antilock brakes and airbags and are more likely to include features such as reverse gear, cruise control, heated hand grips, driver-to-passenger communication systems, navigation, and audio systems.

Sport touring



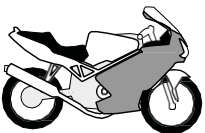
Sport-touring motorcycles are similar in design to sport motorcycles but have some features typically found on touring motorcycles. Sport-touring motorcycles typically are derived from sport-class frames and share components such as engines and drive trains. Sport tourers normally are equipped with touring features such as saddlebags, high windshields, larger fairings, heated grips, and larger seats—features not found on other sport-class motorcycles. Among the other sport-class motorcycles, sport tourers tend to have the largest engines, and riding positions that are more upright. More than any other sport-class motorcycle, sport tourers can accommodate passengers due to larger engines, upright riding positions, and larger seats.

Unclad sport



Unclad sport motorcycles occupy a relatively new market niche; however they are retro in styling. Sometimes referred to as "naked" or "hooligan" motorcycles, unclad sport motorcycles are derivatives of sport/supersport motorcycles. They do not have full body panels or fairing coverings typically found on sport/supersport motorcycles. Compared with sport and supersport motorcycles, unclad sport motorcycles generally have lower horsepower. The riding position places the feet under the seat and the hands below shoulder height. The rider's knees are bent and the upper body has a slight forward lean, giving unclad sport motorcycles a riding position that is more comfortable than the sport class. The reduced horsepower and riding position make them more user friendly and suitable for everyday riding. Some motorcycles in this class serve as beginner motorcycles, whereas others are as powerful and agile as some sport and supersport motorcycles and are targeted at premium customers (e.g., Ducati and Aprilia).

Sport



Sport motorcycles are light and powerful. Their power-to-weight ratios are second only to the supersport class. They benefit from advances in design and technology intended for racing; however, they are not considered racing-specification machines. The riding position places the feet under the seat and the hands below shoulder height. The rider's knees are bent, and the upper body has a forward lean. This riding position improves control when cornering and accelerating. All sport motorcycles have extensive body paneling and fairing covers to provide wind protection and assist in aerodynamics. Sport motorcycles can be equipped with side bags or a rear trunk to provide limited touring ability, but they do not have the features and amenities typically found in the touring or sport-touring classes. Sport motorcycles have a wide range of engine displacements. The riding

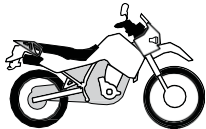
position and lower power-to-weight ratios make sport-class motorcycles more suitable for everyday street use than supersport motorcycles. Sport motorcycles are capable of high speeds, but they do not offer the acceleration, stability, and handling of racing-specification machines.

Supersport



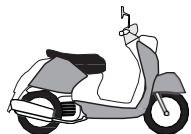
Supersport motorcycles are consumer versions of the motorcycles used by factory racing teams and use racing specifications as benchmarks in design. Their range of engine displacements is limited to meet racing requirements of the class. The power-to-weight ratios of supersport motorcycles are higher than any other mass-produced motor vehicle. As racing specification machines, measures are taken to reduce weight and increase power, thus making these motorcycles quick in acceleration, nimble in handling, and capable of high speeds. The riding position is suitable for racing, and places the feet under the seat and the hands below shoulder height. The rider's knees are bent and the upper body has a forward lean. There also is less space between the seat and feet than for sport motorcycles to provide better rider/racer control. Supersport motorcycles have extensive body paneling and fairing coverings, but generally only offer good wind protection when the rider is in a crouched riding position.

Dual purpose



Dual-purpose motorcycles are similar to off-road motorcycles. However, they are equipped with road-ready features such as turn signals, brake lights, and horns. They also use four-stroke engines for compliance with emissions requirements. They generally have larger displacement engines than off-road motorcycles, along with a more comfortable riding position.

Scooter



Scooters are characterized by small wheels, automatic transmissions, small engines, and a step-through configuration that allows riders to place both feet on a running board with knees together. However, larger scooters with engine displacements greater than 250 cc are becoming more popular. The BMW C650GT and the Suzuki Burgman are examples of the increasing displacements of highway-capable scooters.