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## MUFFLER LIST 2021

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Enclosed the new muffler list for 2021. Because of new rules that were made valid in 2013 the list will be different every year. Some of the older mufflers have disappeared and more will follow. From now on the responsibility on the noise production is up to the driver. Using one of the mufflers on the list does not mean that you are always within the limits. The noise production depends on a combination of motor/muffler/manifold/ins-box/gearing/performance and body (exhaust hole in the body).

EFRA will measure noise limits from time to time at various races to show the drivers their noise production during the coming years. We are improving our measurement systems, the same as used in 5<sup>th</sup> scale from year to year. Drivers that make too much noise (more than other drivers) can be instructed to check and change their motor/muffler/header combination and/or can be penalised. This is a different approach compared to the last 25-30 years however, this is the only solution to bring the level down or keep it within limits. All mufflers on the list will be valid for a period of 2 year and then a renewal by the manufacturer has to be made to EFRA again. This gives better control and the noisier mufflers will easily disappear in the future.

At the end of the list, you see samples with a picture of all the mufflers on this list. We have also listed some of the measurements here, including the weight. The weight is there to avoid the production of mufflers with thinner or different material. Thinner material normally will produce more noise. Within the next weeks pictures from all the mufflers with their dimensions and weight will be added to complete the list. Length and diameter are the maximum values. Some mufflers have a cosmetic change compared to those produced some years ago, which means they are slightly different looking, however functional measurements are still the same. See picture EFRA9901 as sample with extra reinforcement for tailpipe.

	1/8th MUFFLERS for 2021	type	valid till
EFRA9901	NovaRossi		dec-22
EFRA2015	NovaRossi/Gimar		dec-22
EFRA2023	SPM / Vega		dec-21
EFRA2024	SPM / Vega		dec-21
EFRA2034	Hipex		dec-22
EFRA2041	Mielke / Maxima / RMV / Corally		dec-22
EFRA2042	OS Engines/ ProTek RC/ Mugen Seiki/ Bullitt/ S- Power/SMJ/RUDDOG/Victo Sport		dec-22
EFRA2052	NovaRossi		dec-21
EFRA2058	Capricorn / XRD / DB ENGINE TECHNOLOGY /CRF		dec-22
EFRA2060	SHengine		dec-21
EFRA2068	Capricorn / XRD / DB ENGINE TECHNOLOGY	off road	dec-22
EFRA2069	Hipex		dec-22





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EFRA2089	OS Engines/ ProTek RC/ Mugen Seiki/ Bullitt/ S-Power/SMJ/RUDDOG/Victo Sport		dec-22
EFRA2094	MAX		dec-22
EFRA2095	Hipex (low noise pipe)	on road	dec-21
EFRA2098	OS Engines/ ProTek RC/ Mugen Seiki/ Bullitt/ S-Power/SMJ/RUDDOG/Victo Sport		dec-22
EFRA2099	PICCO/XCEED/SONIC/VOX/REDS/LRP/BLISSRC/ RCCONCEPT/TRITON		dec-22
EFRA2104	REDS Racing	off road	dec-21
EFRA2107	Alpha Plus	off road	dec-21
EFRA2108	Hipex		dec-21
EFRA2109	LRP/Nosram/Ongaro edition	off road	dec-22
EFRA2111	Force/S Power		dec-22
EFRA2113	REDS Racing	on road	dec-22
EFRA2115	Hipex		dec-22
EFRA2124	R&B		dec-21
EFRA2130	Alpha/Argus		dec-21
EFRA2131	FX	off road	dec-21
EFRA2134	Alpha / Argus / SPower	off road	dec-22
EFRA2135	Hipex		dec-22
EFRA2136	Shengine	off road	dec-22
EFRA2139	Tesla/One		dec-22
EFRA2141	ultima racing	off road	dec-21
EFRA2142	ultima racing	off road	dec-21
EFRA2143	REDS Racing	off road	dec-21
EFRA2144	Mikrotek Engineering	off road	dec-21
EFRA2145	Mikrotek Engineering	onroad	dec-21
EFRA2146	Hipex	off road	dec-21
EFRA2147	Maxima	off road	dec-21
EFRA2149	CRF		dec-21
EFRA2153	PICCO/XCEED/SONIC/VOX/REDS/LRP/BLISSRC/ RCCONCEPT/TRITON	on road	dec-22
EFRA2154	OSEngines/Nemo Racing/RUDDOG/Victo Sport	off road	dec-22
EFRA2155	OS Engines/ ProTek RC/ Mugen Seiki/ Bullitt/ S- Power/SMJ/RUDDOG/Victo Sport	off road	dec-22
EFRA2156	Flash Point RC	off road	dec-22
EFRA2157	ASM	On road	dec-22
EFRA2158	SHengine		dec-21
EFRA2159	Alpha / Argus / SPower		dec-21
EFRA2160	MSE		dec-21
EFRA2161	Gimar		dec-21
EFRA2163	Capricorn		dec-21
EFRA2164	Max		dec-22
EFRA2165	OS Engines/ ProTek RC/ Mugen Seiki/ Bullitt/ S- Power/SMJ/RUDDOG/Victo Sport	TR02	dec-22
EFRA2166	PICCO/XCEED/SONIC/VOX/REDS/LRP/BLISSRC/ RCCONCEPT/TRITON	off road	dec-22
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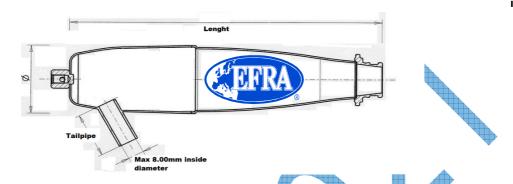
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EFRA2167	Ruddog	off road	dec-22
EFRA2168	Hudy	NEW onroad	dec-22
EFRA2169	Hudy	NEW offroad	dec-22
EFRA2170	Tekno RC/BLOK	NEW offroad	dec-22
EFRA2171	ASM	new	dec-22
EFRA2172	iRacing	new	dec-22

	1/10th MUFFLERS for 2021	type	valid till
EFRA2654	Hipex	on road	dec-22
EFRA2660	NovaRossi	on road	dec-22
EFRA2669	Hipex	on road	dec-22
EFRA2670	MAX	on road	dec-22
EFRA2672	OS Engines/ ProTek RC/ Mugen Seiki/ Bullitt/ S-Power/SMJ/RUDDOG/Victo Sport	on road	dec-22
EFRA2673	Hipex / low noise	on road	dec-21
EFRA2674	REDS Racing	on road	dec-22
EFRA2679	PICCO/XCEED/SONIC/VOX/REDS/LRP/BLISSRC/ RCCONCEPT/TRITON	on road	dec-22
EFRA2681	DB Engine	on road	dec-21
EFRA2687	Tesla/One	on road	dec-22
EFRA2688	Hipex	on road	dec-21
EFRA2689	Mikrotek Engineering	on road	dec-21
EFRA2690	OS Engines/ ProTek RC/ Mugen Seiki/ Bullitt/ S-Power/SMJ/RUDDOG/Victo Sport	on road	dec-22
EFRA2691	Gimar		dec-21
EFRA2692	Capricorn		dec-21
EFRA2693	Capricorn		dec-21
EFRA2694	Max power		dec-21
EFRA2695	Hipex		dec-21
EFRA2696	Hudy	NEW	dec-22
EFRA2697	ASM	NEW	dec-22
EFRA2698	ASM	NEW	dec-22

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	INS Boxes for 2021		
EFRA-INS200101	Serpent	1/8th	1/10th
EFRA-INS200201	Picco box, also sold by R&B	1/8th	1/10th
EFRA-INS200401	Mielke / Mugen Seiki	1/8th	1/10th
EFRA-INS200701	NovaRossi	1/8th	1/10th
EFRA-INS200702	Mielke modified / Mugen Seiki	1/8th	1/10th
EFRA-INS200901	NovaRossi / R&B	1/8th	1/10th
EFRA-INS200902	Serpent / Xceed / Max / OS Speed /R&B / Brillant RC	1/8th	1/10th
EFRA-INS200903	modified NovaRossi (lower 200901)	1/8th	1/10th
EFRA-INS201001	Hobby Pro / Team C	1/8th	1/10th
EFRA-INS201101	Mielke	1/8th	1/10th
EFRA-INS201401	NovaRossi	1/8th	1/10th



MUFFLER LIST 2021 with extra information



## EFRA MUFFLERS 2020 DATA SHEETS

All Dimensions +/- 1mi	n

EFRA9901	22 21 20 19 18 17 16 15 14 13 12 11 10 9 8 7 6 5 4
NovaRossi	45°
Valid till 31-12-2017	19 18 17 16 15 14 13 12 11 10 9 8 7 6 5 4 3 2 1 0
68,5 gramm	
38 x 156mm	
tailpipe 26mm	

Sander de Graaf / EFRA Muffler homologation officer.



