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Example of an outdated (new) bottle of brake fluid

From an article by RandallM of the XLForum ¹⁾

A new (sealed) bottle of BelRay DOT5 brake fluid was purchased from a local Harley Dealership in Feb. 2022.

It was noticed that the color of the new fluid was darker than the old fluid being replaced. This is what caused question if the new fluid was still good. (however, new fluid should always be darker than the used fluid as it gets lighter upon use)

DOT 5 will turn clear to yellow tint with use and that is normal. But the excursion was productive. Looking into an old master cylinder, the darkness in there is not the fluid itself. It's particles in the fluid that have dropped out of suspension floating around or landing on the bottom and/or sides. If you scoop some fluid out off the top, you'll notice it's actually lighter than you thought.

So, an email was sent to Belray. Belray's reply: The Bel-Ray Silicone DOT 5 Brake Fluid is dyed a very faint purple color. Please see attached shelf life statement. The suggested shelf life on our brake fluids (unopened bottles) is 3 years, and anything older than this we do not recommend it for use. Listed below is a statement regarding how to decipher our Bel-Ray batch codes/lot numbers for our brake fluids. The lot number is printed on the case and the back label of each bottle. The format is XXXXJJY (XXXX is for internal use, JJJ is Julian date, Y is year). For example, lot 80482867 was made in October 13, 2017.

Randall sent Belray a picture of the new fluid. Belray's reply: Thank you for sending in those photos. Based on the photo that you sent the color of the fluid from the Bel-Ray Silicone DOT 5 bottle appears to be lighter than what it should be and we would recommend not using this product.

Belray sent him a replacement bottle (in fact, 2 bottles) of new DOT 5 Brake Fluid. They did the honorable thing, as it should be, and it was much appreciated. Since the date code is Julian date, it had to be deciphered.

Initially, the lot numbers printed on the back of the bottle were not found. After a closer look, they were found (very faint and hardly noticeable).

The best account of the lot numbers were 131023018 (but the number count was one more than was given by Belray).

Given the first four numbers are insignificant, the next three are the day of the year (230), and year 2018 (18).

That made the bottle about 3.5 years old at that point. Which makes the newly purchased bottle about 5 months past the "born on" date (or shelf life).

You can search for Julian calendars on the internet. Find one for the full year so you can see the numbers for the year.

A Julian calendar is shown below for August 2018 for this example.

The calendar days are above the Julian days. As you can see, number 230 is Saturday, August 18.

August 2018						
Su	Mo	Tu	We	Th	Fr	Sa
calendar day—	1	2	3	4		
julian day—	213	214	215	216		
5	6	7	8	9	10	11
217	218	219	220	221	222	223
12	13	14	15	16	17	18
224	225	226	227	228	229	230
19	20	21	22	23	24	25
231	232	233	234	235	236	237
26	27	28	29	30	31	
238	239	240	241	242	243	

2)

You can see the color contrast between the 2 fluids. But that's not as easy to tell if you only open the old fluid.

Either could be perceived as purple. But the newer fluid is the tint that left Belray.

Shelf life is the time from when it was bottled and sealed at the manufacturer to when the seal is broken.

This is the newer bottle straight from Belray. ³⁾



Shelf life
app. 7 months

These pics are of the old (new) bottle. ⁴⁾



Belray's published flyer for their DOT 5 fluid reads: Follow vehicle manufacturer's recommendations when adding brake fluid. ⁵⁾

For best results drain and replace the brake fluid once a year. And to flush and refill system with fresh Silicone DOT 5 Brake Fluid.

Their published info does not include the shelf life. But now we know it's 3 years and they prefer it replaced every year.

So, doing the math and combining the info above with Belray's published information;
Their DOT 5 fluid with a 2.9 year shelf life would still be useable for 1 year.

Other brake fluid manufacturers may suggest replacing their fluids around every 2 years for water based brake fluids.

Might that be why their published shelf life is only 2 years? We may never know.

1)

<https://www.xlforum.net/forum/sportster-motorcycle-forum/sportster-motorcycle-drivetrain/sportster-motorcycle-tires-wheels-and-brakes-aa/203583-dot5-fluid-color-question>

2)

photo by Hippysmack

3)

photo by RandallM

4)

photos by RandallM

5)

<https://www.belray.com/wp-content/uploads/2019/02/BR-DOT-5-Silicone-Brake-Fluid-PDS-23Nov2021.pdf>

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Last update: **2024/05/23 05:48**

