

# NAPA ECHLIN CONTACT SETS {IGNITION POINTS}

by Duke Williams and Tim Schuetz Photos by Ed Vignone

For many years confusion has reigned over the various contact sets sold by NAPA under the Echlin brand. There are six Echlin contact sets applicable to Delco single-point distributors not including the “uniset” that combines the points and condenser in a single assembly. NAPA also sells a price leader line called Mileage Plus and a couple of other contact sets in different brands.

You can see all them at [www.napaonline.com](http://www.napaonline.com), and if you know how to use this Web site (which is a good thing to know), you can arrange the six Echlin contact sets in a single comparison window.

NAPA jobber and '65 L76 owner Tim Schuetz wanted to get to the bottom of this issue, so Tim sent me four of the six part numbers for analysis in boxes marked CS86, CS89, CS786P, and CS7860. Standard Motor Products (SMP) manufactures all six, and some are available in other brands such as BWD, Delco, Niehoff, and Standard. Delco has not manufactured contact sets for nearly 20 years. They just purchase the SMP products (as do the other brands), package them in Delco boxes, and distribute them through their own marketing channels. All brands have online catalogs with cross-reference listings, but since NAPA is nationwide and most members have a NAPA store conveniently located, they can now order a NAPA Echlin contact set with known specifications and features to meet specific needs.

Armed with a three-pound spring scale, micrometer, caliper, multimeter, and plain screwdriver to partially disassemble the breaker arm leaf springs for measurement, I offer the following measurements and visual observations. A summary of the measured and NAPA Web site data follows the discussion. All have screw-type terminals rather than the breaker arm spring-clip terminals like the old Delco D106P (1931988), a design I never cared for, but the old Delco D106PS (1966289) has a screw terminal. While most members were watching the NFC Championship Game, I queued up a couple of Bach CDs and spent the next

few hours playing with the contact sets. I had a pleasant afternoon and posted the results on the Technical Discussion Board that evening, January 23.

CS86: This contact set (Figure 1) is listed on the NAPA Web site as “standard” and is equivalent to the OE contact set installed in most single-point distributors. The breaker arm tension specification is 19-23 ounces, and in addition to the main leaf spring, which is non-magnetic or just slightly magnetic indicating stainless steel, there is a thin parallel leaf that appears to be copper, which is likely for conductivity. It is too thin to add any additional breaker arm tension.

CS89: This contact set shown on the right side in Figure 2 is listed on the Web site as “high performance” and appears identical to CS86, but the main breaker-arm leaf is .002” thicker, which increases breaker-arm tension to equal the 28-32 ounces of the long-discontinued Delco D112P (1966294).

CS786P: This contact set is listed on the Web site as “vented,” but the set in the box was not vented and is likely CS786, discussed next. Other than the perforated contact pads, CS786P is likely identical to CS786. Vented points have been around for decades, and the theory is that they run cooler, which extends point life, but I have no personal experience and have never seen a scientifically conducted test.

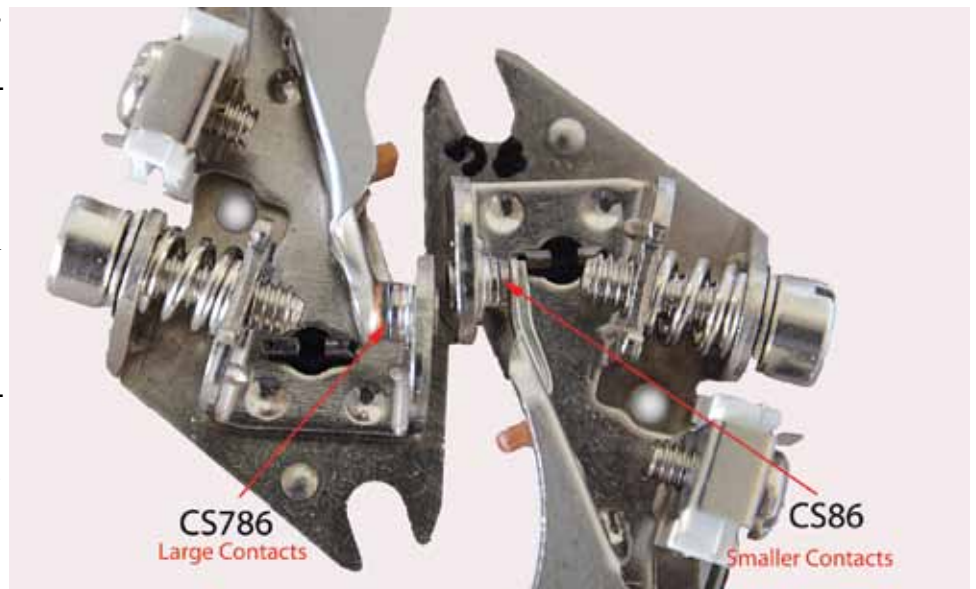


Figure 1: CS786 versus CS86. Both are “standard” 19-23 ounce breaker arm tension



**Figure 2: CS7860 with unique felt lubricator pad and CS89. Both are “high performance” 28-32 ounce breaker arm tension. All sets include the grease capsule, but only CS7860 includes the felt pad.**

CS786: This contact set is listed on the Web site as “heavy duty” and has larger diameter contact pads (Figure1) that increase contact area by about 43 percent. Because of the larger contact pads, the breaker arm is a different design than the other sets—different geometry— that made measuring breaker-arm tension difficult, but breaker-arm tension is the same as CS86.

CS7860: This contact set is also listed on the Web site as “high performance” and has the same spring thickness and 32-ounce breaker-arm tension as CS89, but it has some different construction details. The other three sets’ breaker-arm leaf springs are retained to the breaker arms by 90-degree tangs that fit into slots in the breaker arms. This set’s leaf spring has no tang. Rather, the spring end mounted to the breaker arm is longer allowing it to be secured to the breaker arm with the rivet that retains the rubbing block. It does not have the thin copper parallel leaf, but I found no difference in resistance with my ohmmeter that measures to about 0.1-ohm resolution. All are essentially zero. The terminal insulator is red rather than white as on all the others, and the adjustment screw has blue Loctite.

This set also has another interesting feature. Packaged with the capsule of grease is a small felt pad with a slot (Figure 2). The slot fits over the rubbing block, and the instructions say to grease both the rubbing block and felt pad. This should help retain grease and, in my opinion, should be included with the other sets, too. Despite this extra feature and what appears to be somewhat more robust construction, the CS7860 is the least expensive of the six!

CS7860C: This contact set is listed on the Web site as “racing only,” and I suspect it has higher than 32-ounce breaker-arm tension. Since the 32-ounce contact sets are good to 7000-plus revs in a snug distributor, CS7860C should not be necessary for any road-going Corvette with something close to an OE engine configuration.

### NAPA Echlin Contact Sets Measured and Web Site Data

Part Number	Breaker arm tension, ounces	Spring/conductor thickness, inch	Contact diameter/inch	NAPA Website comment	Online price
CS86	24	.018/.006	0.152	Standard	\$16.49
CS89	32	.020/.006	0.152	High Performance	\$21.49
CS786	24	.018/.006	0.185	Heavy Duty	\$15.69
CS786P	n/a	n/a	n/a	Vented	\$16.49
CS7860	32	.020/---	0.152	High Performance	\$14.99
CS7860C	n/a	n/a	n/a	Racing only	\$16.49

n/a=data not available

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My basic usage recommendations are as follows:

1. Engines with redlines up to 5500 and the 1.8-ohm ballast (1957154) - CS86.
2. Engines with redlines up to 5500 and the 0.3-ohm ballast (1931385) - CS786. The additional contact area might reduce the tendency to burn points, which is not uncommon on systems with the 0.3-ohm ballast, especially in cold weather. Ballast resistance decreases with decreasing ballast temperature and vice versa. All 12-volt C1s were built with the 0.3-ohm ballast, and a 1962 Technical Service Bulletin recommends using the 1.8-ohm ballast in cold weather to reduce the possibility of burned points. The 1.8-ohm ballast replaced the 0.3-ohm ballast as a running change on 1963 250- and 300-horsepower engines, but the 0.3-ohm ballast continued to be used on C2 mechanical-lifter engines through the end of 1964 production. Beginning in 1965, only the 1.8-ohm ballast was used with all single-point systems until the change to the resistance wire in 1968.
3. Engines with redlines over 5500 - CS7860. This 32-ounce set is 30-percent less expensive than CS89 and has some better features.

Proper distributor operation is necessary for peak engine performance—everything from idle quality to achieving redline without spark scatter or ignition breakup. It is possible that a standard-tension contact set will achieve 6500 revs in a freshly blueprinted, snug distributor, but in my experience, maximum high-rev performance in SHP/FI engines requires a 32-ounce contact set. As with many tuning parameters, what works in your distributor boils down to the condition of your distributor, your driving habits, and, perhaps, some experimentation. My bet is that a majority of single-point distributors out there are in need of a blueprint overhaul. Sloppy endplay, excess shaft bushing clearance, and wobbly breaker plates will not allow peak performance, even in base engines. If the ignition system does not deliver a properly timed spark of sufficient energy for all operating conditions, the engine will never achieve peak performance and fuel economy. It's that simple!

Nominal point life is about 30,000 miles, but varies widely depending on ignition system configuration, condition, and operating conditions. Since most of our cars have low annual mileage accumulation, it is a good idea to check rubbing block lubrication every couple of years, and

while you're at it, check point resistance and dwell angle. Dwell angle changes due to contact surface and rubbing block wear affect initial timing; therefore, checking initial timing is also a good idea after you have checked and if necessary, adjusted dwell. Throw in the idle speed/mixture adjustment procedure, and you have done a minor tune-up in less time than a wash job.

Thank-you, Tim Schuetz, for providing the test samples. Tim did not want them back, so I auctioned-off the standard breaker-arm tension contact sets at our February Southern California Chapter judging school with proceeds earmarked to the Chapter Charity Program. I retained the high breaker arm tension contact sets for further evaluation.

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