



## SERVICE BULLETIN

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**Title:** XL Unit Mounted Starter Nomenclature  
**Models Affected:** 19/23 XL

**Number:** C9307  
**Date:** 3/25/93  
**Supersedes:**  
**Date:**

**Purpose:**

To transmit to the field the XL unit mounted starter model number nomenclature.

Unit mounted starters on XL machines have a model number, found inside the starter cabinet. This model number can let the observer know what options and settings were supplied on this starter.

**File:** Installation, Start-up, Operation

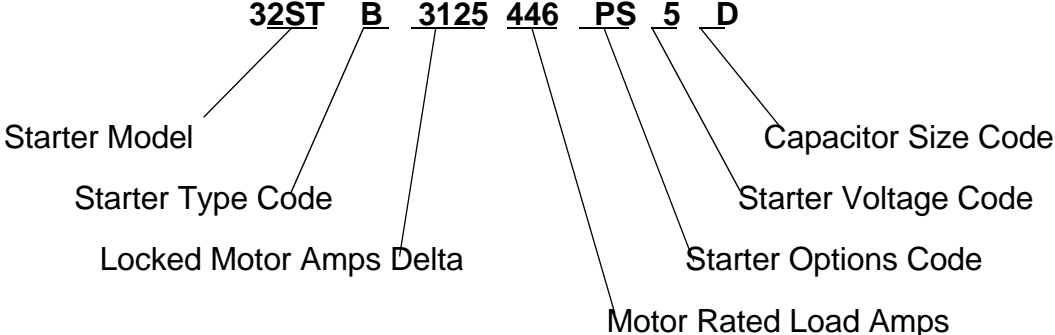
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**Typical Starter Model Number:**



**Table 1 — Starter Type Code**

Pos. #5	Type
A	19XL Solid State
B	19XL Wye-delta
Z	23XL Solid State
Y	23XL Wye-delta

**Table 2 — Starter Voltage Code**

Position #15	Voltage
1	200-3-60
2	230-3-60
3	380-3-60
4	416-3-60
5	460-3-60
6	575-3-60
7	230-3-50
8	346-3-50
9	400-3-50

**Table 3 — Capacitor Size Code**

Position #16	KVAR	Position #16	KVAR
0	No Capacities	M	90
A	20	N	100
B	25	P	120
C	30	Q	125
D	35	R	150
E	40	S	175
F	45	T	200
G	50	U	225
H	60	W	250
J	70	X	300
K	75	Y	350
L	80	Z	400

**Note:** The option code matrix is shown on [Figure 1](#). Position code #13 is listed vertically, Position code #14 is listed horizontally.

### **Options Available On All Starters:**

1. 3 phase volt/amp meter package
2. Power factor correction capacitors
3. Lightning/surge arrestor package
4. KW transducer
5. Circuit breaker w/ shunt trip
6. 3 phase under/over voltage protection

### **Options Available On Wye-delta Starters:**

**(Standard on solid state type)**

7. Ground fault protection
8. Reverse rotation indicator (phase reversal)

### **Options Available On 23XL Wye-delta Starters:**

9. High interrupt circuit breaker

In the example starter model number shown above, the model number illustrates a 19XL wye-delta starter. The motor has a locked rotor delta rating of 3125 amps, and the full load rating of the machine is 446 amps. Options code PS is designated, which indicates that options 1, 2, 3, 4, 5, and 6 were included on this starter. The starter voltage rating is 460v, 3 phase, 60 HZ, and the starter has capacitors rated at 35 KVAR.

Figure 1 — Starter Options

		Position #14											
		A	B	C	D	E	F	G	H	J	K	L	M
Position #13	A	1	29	124	169	279	469	1248	1369	1789	2478	3567	5789
	B	2	34	125	178	289	478	1249	1378	2345	2479	3568	6789
	C	3	35	126	179	345	479	1256	1379	2346	2489	3569	12345
	D	4	36	127	189	346	489	1257	1389	2347	2567	3578	12346
	E	5	37	128	234	347	567	1258	1456	2348	2568	3579	12347
	F	6	38	129	235	348	568	1259	1457	2349	2569	3589	12348
	G	7	39	134	236	349	569	1267	1458	2356	2578	3678	12349
	H	8	45	135	237	356	578	1268	1459	2357	2579	3679	12356
	J	9	46	136	238	357	579	1269	1467	2358	2589	3689	12357
	K	12	47	137	239	358	589	1278	1468	2359	2678	3789	12358
	L	13	48	138	245	359	678	1279	1469	2367	2679	4567	12359
	M	14	49	139	246	367	679	1289	1478	2368	2689	4568	12367
	N	15	56	145	247	368	689	1345	1479	2369	2789	4569	12368
	P	16	57	146	248	369	789	1346	1489	2378	3456	4578	12369
	Q	17	58	147	249	378	1234	1347	1567	2379	3457	4579	12378
	R	18	59	148	256	379	1235	1348	1568	2389	3458	4589	12379
	S	19	67	149	257	389	1236	1349	1569	2456	3459	4678	12389
	T	23	68	156	258	456	1237	1356	1578	2457	3467	4679	12456
	V	24	69	157	259	457	1238	1357	1579	2458	3468	4689	12457
	W	25	78	158	267	458	1239	1358	1589	2459	3469	4789	12458
X	26	79	159	268	459	1245	1359	1678	2467	3478	5678	12459	
Y	27	89	167	269	467	1246	1367	1679	2468	3479	5679	12467	
Z	28	123	168	278	468	1247	1368	1689	2469	3489	5689	12468	

**Figure 1 — Starter Options (Continued)**

Position #14												
		N	P	Q	R	S	T	V	W	X	Y	Z
<b>Position #13</b>	<b>A</b>	12469	13489	15689	24567	34689	123567	125789	234567	345689	1245789	12356789
	<b>B</b>	12478	13567	15789	24568	34789	123568	126789	234568	345789	1246789	12456789
	<b>C</b>	12479	13568	16789	24569	35678	123569	134567	234569	346789	1256789	13456789
	<b>D</b>	12489	13569	23456	24578	35679	123578	134568	234578	356789	1345678	23456789
	<b>E</b>	12567	13578	23457	24579	35689	123579	134569	234579	456789	1345679	123456789
	<b>F</b>	12568	13579	23458	24589	35789	123589	134578	234589	1234567	1345689	
	<b>G</b>	12569	13589	23459	24678	36789	123678	134579	234678	1234568	1345789	
	<b>H</b>	12578	13678	23467	24679	45678	123679	134589	234679	1234569	1346789	
	<b>J</b>	12579	13679	23468	24689	45679	123689	134678	234689	1234578	1356789	
	<b>K</b>	12589	13689	23469	24789	45689	123789	134679	234789	1234579	1456789	
	<b>L</b>	12678	13789	23478	25678	45789	124567	134689	235678	1234589	2345678	
	<b>M</b>	12679	14567	23479	25679	46789	124568	134789	235679	1234678	2345679	
	<b>N</b>	12689	14568	23489	25689	56789	124569	135678	235689	1234679	2345689	
	<b>P</b>	12789	14569	23567	25789	123456	124578	135679	235789	1234689	2345789	
	<b>Q</b>	13456	14578	23568	26789	123457	124579	135689	236789	1234789	2346789	
	<b>R</b>	13457	14579	23569	34567	123458	124589	135789	245678	1235678	2356789	
	<b>S</b>	13458	14589	23578	34568	123459	124678	136789	245679	1235679	2456789	
	<b>T</b>	13459	14678	23579	34569	123467	124679	145678	245689	1235689	3456789	
	<b>V</b>	13467	14679	23589	34578	123468	124689	145679	245789	1235789	12345678	
	<b>W</b>	13468	14689	23678	34579	123469	124789	145689	246789	1236789	12345679	
<b>X</b>	13469	14789	23679	34589	123478	125678	145789	256789	1245678	12345689		
<b>Y</b>	13478	15678	23689	34678	123479	125679	146789	345678	1245679	12345789		
<b>Z</b>	13479	15679	23789	34679	123489	125689	156789	345679	1245689	12346789		

**Examples:**

00 – No Options

PC – Consists of: 1, 4, 6

Meter package

KW transducer

3 phase under/over voltage protection

**Options:**

1 – 3 phase volt/amp meters

2 – Power factor correction capacitors

3 – Lightning/surge arrestor

4 – KW transducer

5 – Circuit breaker w/shunt trip

6 – 3 phase over/under voltage protection

7 – Ground fault

8 – Reverse rotation trip

9 – High interrupt circuit breaker