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| 981186 | 40152 | 3854750 | | 18-5611 | 5367 | 18-5801 | Z/W301 |
| 981187 | 40152 | 3854751 30470 | | 18-5612 | | 18-5802 | |
| 981410 | SW268 | 3854809 | 60125 | 18-5613 | | | |
| 981638 | 6211 | 3855177 30470 | | 18-5614 | | 18-5803 18-5804 | |
| 981703 | SW394 | 3855882 | 30/60 | 18-5617 | 5391 | | |
| 981821 | 70200 | 3856600 | | 18-5618 | 3301 | 18-5807 | |
| 982058 | 6204 | | | | | 18-5808 | 500022 |
| 982069 | 6211 | 3857298 | | 18-5619 | | 18-5811 | 5W463 |
| 982073 | | 3857533 | K4/3 | 18-5620 | | 18-5812 | SW268 |
| 982107 | | 3857561 | | 18-5621 | | 18-5813 | SW268 |
| 982121 | | 3857747 30470 | | 18-5622 | | 18-5814 | SW340 |
| 982151 | | 3858463 | 30460 | 18-5623 | | 18-5815 | |
| 982187 | SW268 | 3860566 30470 | | 18-5624 | 5389 | 18-5816 | SW054 |
| 982189 | SW394 | 3860769 | 60125 | 18-5626 | 5370 | 18-5817 | SW058 |
| 982200 | 30460 | 5004518 | | 18-5627 | | 18-5818 | SW064 |
| 982311 | | 5005254 | 6238 | 18-5628 | | 18-5819 | |
| | | | | | | | |



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| SIERRA | | SIERRA | | | | SIERRA | |
|--------------------|----------------|--------------------|--------------|--------------------|--------------|----------------------------------|---------------|
| 18-5820 | SW099 | 18-6261 | 60070 | 18-6454 | 20840 | 18-6932 | 98185 |
| 18-5821 | SW945 | 18-6262 | 60122 | 18-6455 | 20850 | 18-6937 | 98180 |
| 18-5822 | SW926 | 18-6263 | 60108 | 18-6754 | | 18-6943 | |
| 18-5823 | SW580 | 18-6264 | | 18-6755 | | 18-6946 | |
| 18-5833 | SW590 | 18-6265 | 60071 | 18-6756 | | 18-6947 | 12213 |
| 18-5834 | SW109 | 18-6266 | R040 | 18-6758 | | 18-6952 | 60150 |
| 18-5835 | SW295 | 18-6267 | R211 | 18-6759 | | 18-6955 18-18409 | 6250 |
| 18-5836 | | 18-6268 | R177 | 18-6760 18-6761 | | 18-56001 | 0239 SR410 |
| 18-5837 | SW984 | 18-6269 | SW340 | 18-6762 | 6216 | 18-56002 | |
| 18-5838 | | 18-6270 | | 18-6763 | 6217 | 18-56003 | SR420 |
| 18-5841 | | 18-6271 | | 18-6764 | 6211 | 18-56004 | SR424 |
| 18-5879 | | 18-6274 | | 18-6765 | | 18-56005 | SR426 |
| 18-5882 | | 18-6275 | | 18-6767 | 6208 | 18-56006 | SR428 |
| 18-5900 18-5901 | 30400 20456 | 18-6276 | | 18-6767-1 | 6208 | 18-56007 | SR429 |
| 18-5902 | | 18-6277 | | 18-6769 | | 18-56008 | SR440 |
| 18-5903 | | 18-6278 | | 18-6769-1 | 6275 | 18-56009 | SR444 |
| 18-5904 | | 18-6280 | | 18-6770 | | 23-5900 | 86050 |
| 18-5905 304 | 170 & MBK450 | 18-6281 | | 18-6771 | M525 | A.I. | |
| 18-5906 | 10113 | 18-6282 | | 18-6772 | 6218 | SUZUKI | |
| 18-5907 | 30456 | 18-6283 | | 18-6773 | | 31100-87D00 | 3442 |
| 18-5908 | 30457 | 18-6284 | | 18-6774 | | 31100-87D10 | |
| 18-5910 304 | 170 & MBK450 | 18-6285 | | 18-6775 18-6777 | | 31100-92E00 | |
| 18-5911 | 30460 | 18-6286 | | 18-6778 | 0270 M522 | 31100-94400 | 3/12 |
| 18-5913 304 | 170 & MBK450 | 18-6287 | | 18-6780 | | 31100-94401 | 2/12 |
| 18-5914 | 70200 | 18-6288 | | 18-6781 | 6260 | 31100-94402 | |
| 18-5915 | /0201 | 18-6291 | | 18-6783 | 6240 | 31100-94402 | |
| 18-5916 | | 18-6292 | 10113 | 18-6785 | | | |
| 18-5917 18-5918 | | 18-6293 | 20800 | 18-6786 | | 31100-94510 | |
| 18-5919 | | 18-6298 | | 18-6787 | 6261 | 31100-94511 | |
| 18-5920 | | 18-6299 | 20830 | 18-6788 | | 31100-94512 | |
| 18-5923 | | 18-6410 | 3420 | 18-6789 | 6266 | 31100-94600 | |
| 18-5927 | 70216 | 18-6411 | 3422 | 18-6798 | | 31100-94601 | |
| 18-5929 | 20860 | 18-6412 | | 18-6804 | | 31100-94610 | |
| 18-5939 | 80108 | 18-6413 | | 18-6805 | 6232 | 31100-95600 | 3440 |
| 18-5943 | | 18-6414 | 3440 | 18-6811 | | 31100-95601 | |
| 18-5945 | 65055 | 18-6415 | 3428 | 18-6812 18-6813 | 0200 | 31100-96310 | |
| 18-5950 | | 18-6416 | | 18-6814 | | 31100-96311 | |
| 18-5951 | 20104 | 18-6417 | | 18-6815 | | 38100-87D01 | |
| 18-5954 | | 18-6418 | 3410 | 18-6816 | | 38100-87E20-0E | |
| 18-5956 | | 18-6420 | | 18-6817 | | 38100-92E00-0E 38100-92E00-0E | D 6268 |
| 18-5957 | | 18-6421 18-6422 | 3423 | 18-6821 | 6267 | | |
| 18-5959 | 80108 | 18-6423 | 3420 2427 | 18-6824 | 5384 | 38410-94540 | K950/95 I |
| 18-5960 | | 18-6424 | 2420 | 18-6825 | | TOUATOU | |
| 18-5963 | | 18-6425 | 2/120 | 18-6826 | 5358 | TOHATSU | |
| 18-5964 | 40152 | 18-6426 | 3/131 | 18-6827 | 3444 | FM5900 | 3410 |
| 18-59640 | 40152 | 18-6427 | 3432 | 18-6828 | | 3C8-76010-10 | 3412 |
| 18-5965 | 60065 | 18-6430 | 3421 | 18-6829 | | 353-76010-1A0 | 3410 |
| 18-5966 | 60050 | 18-6432 | | 18-6838 18-6841 | | 353-76010-04 | |
| 18-5967 | | 18-6433 | | 18-6842 | 2010Z | 353-76010-300 | 3410 |
| 18-5972 | | 18-6434 | | 18-6843 | | 000 700 10 000 | |
| 18-5979 | | 18-6435 | | 18-6845 | | UNIVERSAL | |
| 18-5983 | | 18-6436 | 5362 | 18-6847 | 60076 | | |
| 18-5984 | | 18-6437 | 5364 | 18-6848 | 60074 | 275753 | |
| 18-6250 | | 18-6438 | 5365 | 18-6851 | BI-1203 | 277584 | |
| 18-6251 | | 18-6439 | 5382 | 18-6852 | BI-1602 | 288182 | |
| 18-6252 | | 18-6440 | | 18-6854 | BI-1603 | 288759 | 60108 |
| 18-6253 | | 18-6441 | | 18-6855 | BI-0702 | | |
| 18-6254 | | 18-6443 | | 18-6860 | WH800 | VOLVO | |
| 18-6257 | | 18-6450 | | 18-6861 | 3429 | 1214764 | |
| 18-6258 | | 18-6451 | | 18-6863 | | 1324492 | D040 |
| 18-6259 18-6260 | | 18-6452 | | 18-6864 | | | |
| 10-0200 | 00123 | 18-6453 | 20822 | 18-6925 | 84135 | 1501832 | R832 |



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| VOLVO | |
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| 1504952-1 | R952 |
| 241812 | R670 |
| 3581774 | 97225 |
| 3586/65 | 6227 30470 & MBK450 |
| 308/625 | 97225 |
| 3850216-7 | 97223 SW463 |
| 3850525-1 | SW463 30470 & MBK450 |
| 3850526 | 30460 |
| 3850927-9 | 60125 |
| 3853839-3 | SW394 |
| 3853853-4 | 60125 |
| | SW984 |
| 3853998-7 | 30470 & MBK450 SW984 |
| 3854182-7 | 60125 |
| | 70125 |
| 3854194-2 | SW125 |
| 3854750-1 | 30460 30470 & MBK450 |
| 3854751-9. | 30470 & MBK450 |
| 3854809-5 | 60125 30470 & MBK450 |
| 3856600 | 60070 |
| 3856003-3 | 30460 |
| 3856004-1. | 30470 & MBK450 |
| 3856596 | 6227 |
| 3857298 | 60125 |
| 3857265-7 | 6224 |
| 3857747 | 60070 . 30470 & MBK450 |
| 3857813 | 60071 |
| 3858071 | 6232 |
| 3858077 | IVI533 |
| 3858800 | R809 R809 |
| 3859054 | SW463 |
| 3860082 | 60072 |
| 3860171 | 60070 |
| 3860173 3860566 | 60125 . 30470 & MBK450 |
| 3000300 | . 30470 & MBK450 . 30470 & MBK450 |
| 3860769 | 60070 |
| 3860798 | 60071 |
| 3861575 | 6233 |
| | 30460 |
| | 60074 60076 |
| 3862665 | 60073 |
| 3862985 | 30459 |
| 3885317 | 30459 30470 & MBK450 |
| 3884950 | 60073 |
| 594043 | DV225 SW225 |
| 6643474-7 | R670 |
| 818721 | R670 SW975 |
| 829029-8 | SW814 |
| | 97225 |
| 831725-7 834625-6 | R952 80108 |
| 834804-7 | SW814 |
| 834852-6 | SW814 |
| 834893-0 | 50142 |
| 835121-5 | 50142 |
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| VOLVO | | |
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| 839367-0 | | |
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| 841066-4 | | |
| 841177-9 | | |
| 841377-5 | | 30456 |
| 841378-3 | | 80108 |
| 841656-2 | | |
| 841762-8 | | |
| 841765-1 | | |
| 841766-9 | | |
| 847308 | | |
| 847561-8 | | |
| 849561-6 | | |
| 849748-9 | | 60175 |
| 850834-3 | | 6223 |
| 851126-3 | | |
| 852565-1 | | |
| 852928-1 | | |
| 853083-4 | | |
| 853084-2 | | |
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| 853545-2 | | |
| 854346-4 | | |
| 854357-1 | | |
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| 854531-1 | | |
| 855326-5 | | 30460 |
| 855332-3 | | . SW975 |
| 855334 | | 30459 |
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| | | 80108 |
| 858839-4 | | 80108 |
| | | 97225 |
| 859618-1 | | . SW225 |
| 859623-1 | | DV225 |
| 860334-2 | | |
| 870670-7 | | |
| 872018-7 | | |
| 872235-7 | | 80108 |
| 872241-5 | | |
| 872272-0 | | |
| 872300-9 | | |
| 872449-4 | | 6224 |
| 872926-1 | | 80108 |
| 873051-7 | | 6224 |
| 873120-0 | | BI-0702 |
| 873549-0 | | 10113 |
| 875356-8 | | . TR221 |
| 876037-3 | | R832 |
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| 876039-9 | | |
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| YAMAHA | |
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| CS3-43880-00 | 6259 |
| 19-1400-10 6BR-81800-00 | |
| 6BR-81800-01 | 3433 |
| 6CJ-81800-00 | 3432 |
| 6C5-43880-00 6C5-43880-01 | 6257 6257 |
| 6C5-81800-00 | 3432 |
| 6D8-43880-00 6D8-43880-01 | 6258 |
| 6D8-43880-09 | 6258 |
| 6E5-43880-01 6E5-43880-02 | 6267 6267 |
| 6E5-81840-10 | SR426 |
| 6E5-81800-11 | 3426 3426 |
| 6E5-81800-12 6E5-81941-10 | SW941 |
| 6E5-81941-11 | SW941 |
| 6E5-8195A-01 | R950 R951 |
| 0.0-0 1000-10 | 3423 3423 |
| 6F5-81800-11 6G1-8194A-10 | CMOVE |
| 6G1-81940-00 6G1-81941-10 | SW945 SW945 |
| 6G5-43880-00 | 6265 |
| 6G5-43880-01 | 6265 6265 |
| 6H1-43880-00 | 6267 |
| 6H1-43880-02 6H3-81800-10 | 6260 3422 |
| 6H3-81800-11 | 3422 3422 |
| 6H4-81800-10 6H4-81800-11 | 3425 3425 |
| 6H4-81800-12 | 3425 |
| 6H5-43880-02 6H5-43880-09 | 6264 6264 |
| 6J4-81800-00 | 3423 |
| 6J4-81800-01 6K7-81800-10 | 3423 3428 |
| 6L2-81800-10 | 3421 |
| 6L2-81800-11 6L2-81800-20 | 3421 3421 |
| 6N7-81800-00 | 3428 |
| 6N7-81800-01 6N7-81800-10 | 3428 3428 |
| 6N7-81840-00 | SR428 |
| 6N7-WS818-01 61A-81800-00 | 3428 3429 |
| 61A-81800-01 | 3429 |
| 61A-81840-00 61A-81941-00 | SR429 SW941 |
| 61H-81800-00 | 3428 |
| 61H-81800-01 61H-81800-10 | 3428 3428 |
| 62X-43880-00 | 6266 |
| | 6266 6266 |
| 62Y-43880-01 | 6259 |
| 62Y-43880-02 63P-81800-00 | 6259 |
| 64F-43880-00 | 6240 |
| 64E-43880-01 | 6240 |
| 64E-43880-01 64E-43880-03 64E-43880-04 | 6240 6240 |
| 65W-81800-00 | 5364 |
| 65W-81800-01 65W-81800-02 | 5364 |
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| YAMAHA | |
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| 65W-81800-03 65W-81941-00 66M-81800-01 66M-81800-02 663-81840-11 67C-81800-00 67C-81800-01 67C-81800-02 67F-81800-02 67F-81800-02 67F-81800-02 67F-81800-02 67F-81800-02 67F-81800-03 67H-43880-04 68F-81800-00 68F-81800-01 68F-81800-01 68F-81800-01 68V-43880-01 68V-43880-01 68V-43880-01 68V-43880-01 68V-81800-01 682-81800-12 688-81800-12 688-81800-12 688-81800-12 688-81800-12 688-81800-12 689-81800-12 689-81800-12 689-81800-12 689-81800-12 689-81800-12 689-81800-12 689-81800-12 689-81800-13 69U-43880-01 69U-43880-01 69U-43880-01 69W-43880-01 69W-43880-01 69W-43880-01 69W-43880-01 | 5364 SW099 5359 5359 SR424 5365 5365 5365 6261 3430 3430 3430 6240 6240 6240 6240 6240 6240 6240 624 |
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| 128170-77010 128170-77010D 128270-77200 129608-77010 129698-77010 129772-77200 | 98180 98180 84135 98185 98185 84150 98185 98185 |

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42847.....60104



3410 (NEW)

FITS: TOHATSU 45-140 HP, 2 Stroke Replaces: Hitatchi S114-415A, S114-415, S114-571A, S114-667

9-tooth drive gear

DV510*

9-tooth drive gear





3410, Hitachi S114-667, Tohatsu FM 5900

SR410*

Brush holder assembly w/brushes available



/ WARNING

Cancer and Reproductive Harm www.P65Warnings.ca.gov

3412 (NEW) FITS: SUZUKI, TOHATSU, NISSAN 30-40 HP, 2 Stroke

Replaces: Hitachi S108-94, S108-112, S108-120 9-tooth drive gear

DV512* 9-tooth drive gear



*Will Fit These Starters Only:

3412, Hitachi S108-120, Tohatsu 3C8-76010-100

SR412*

Brush holder assembly w/brushes available



WARNING

Cancer and Reproductive Harm www.P65Warnings.ca.gov

3420 (NEW)

FITS: YAMAHA 25-40 HP. 2 Stroke MARINER 20-40 HP. 2 Stroke Replaces: Hitachi S108-80, S108-80A, S108-80B 11-tooth drive gear

DV520* 11-tooth drive gear



*Will Fit These Starters Only:

3420, Hitachi S108-80B, Yamaha 689-81800-13

SR420*

Brush holder assembly w/brushes available



WARNING

Cancer and Reproductive Harm www.P65Warnings.ca.gov

3421 (NEW)

1984-1997 9.9-15 HP

1988-1998 25 HP MERCURY 9.9 HP, 4 Stroke

15 HP, **4 Stroke**

Replaces: Hitachi S106-07B,

S106-07E, S106-07F

10-tooth drive gear

FITS: YAMAHA

1984-UP 70 HP

1991-UP 60 HP, **2 Stroke** Replaces: Hitachi S108-97A

9-tooth drive gear

DV522*

9-tooth drive gear





*Will Fit These Starters Only:

3422, Hitachi S108-97A, Yamaha 6H3-81800-11

SR422*

Brush holder assembly w/brushes available



WARNING

Cancer and Reproductive Harm www.P65Warnings.ca.gov

3423 (NEW)

FITS: YAMAHA

1987-Up 30 HP

1989-Up 40-50 HP

Replaces: Hitachi S108-87A

11-tooth drive gear

DV523*

11-tooth drive gear





*Will Fit These Starters Only:

4 3423. Hitachi S108-87A. Yamaha 6F5-81800-11

SR423*

Brush holder assembly w/brushes available



WARNING





3424 (NEW)

FITS: YAMAHA, MARINER

55-60 HP 2-Cyl, 2 Stroke Engines Replaces: Hitachi S114-221

9-tooth drive gear

DV524*

9-tooth drive gear



*Will Fit These Starters Only:

4 3424, Hitachi S114-221J, Yamaha 697-81800-13



Brush holder assembly w/brushes available



WARNING

Cancer and Reproductive Harm www.P65Warnings.ca.gov

3425 (NEW)

FITS: YAMAHA

1984-1988 40-50 HP Replaces: Hitachi S108-99B

9-tooth drive gear

DV525* 9-tooth drive gear





*Will Fit These Starters Only:

3425. Hitachi S108-99B. Yamaha 6H4-81800-12

SR425*

Brush holder assembly w/brushes available



WARNING

Cancer and Reproductive Harm www.P65Warnings.ca.gov

3426 (NEW)

FITS: YAMAHA

1984-1996 115-200 HP, 2 Stroke 1995-2000 40-50 HP, 4 Stroke

MERCURY 40-50 HP, 4 Stroke S/N 0G472132 & BELOW

Replaces: Hitachi S114-323 9-tooth drive gear

DV526*

9-tooth drive gear



*Will Fit These Starters Only:

4. CD 3426, Hitachi S114-323C, Yamaha 6E5-81800-12

SR426*

Brush holder assembly w/brushes available



WARNING

Cancer and Reproductive Harm www.P65Warnings.ca.gov

1994-1999 75 HP

1991-1996 85 HP

1984-UP 90 HP

Replaces: Hitachi S114-263B

9-tooth drive gear

DV527*

9-tooth drive gear



*Will Fit These Starters Only:

4 3427, Hitachi S114-263B, Yamaha 688-81800-12

SR427*

Brush holder assembly w/brushes available



WARNING

Cancer and Reproductive Harm www.P65Warnings.ca.gov

3428 (NEW)

FITS: YAMAHA 115-225 HP, 2 Stroke

Replaces: Hitachi S114-552, S114-660

DV528*

9-tooth drive gear



*Will Fit These Starters Only:

428, Hitachi S114-660B, Yamaha 6N7-81800-10

SR428*

Brush holder assembly w/brushes available



WARNING

Cancer and Reproductive Harm www.P65Warnings.ca.gov

3429 (NEW)

FITS: YAMAHA

1998-UP V200. 1994-UP 225 HP

1990-UP 250 HP

Replaces: Hitachi S114-559B

9-tooth drive gear

DV529*

9-tooth drive gear





*Will Fit These Starters Only:

3429, Hitachi S114-559B, Yamaha 61A-81800-01

SR429*

Brush holder assembly w/brushes available



WARNING



3430 (NEW)

FITS: YAMAHA 1999-Up 80 HP. 4 Stroke 1999-Up 100 HP. 4 Stroke MERCURY/MARINER

75 HP, **4 Stroke** 90 HP. 4 Stroke Replaces: Hitachi S114-828B 13-tooth drive gear



3431 (NEW)

FITS: YAMAHA

2000-Up LZ 150-175 HP 2000-Up VZ 150-175 HP **2000-Up** Z 150-175 HP

2000-Up LZ 200-Z200 HP Replaces: Hitachi S114-836A

13-tooth drive gear



3432 (NEW)

FITS: YAMAHA 2000-Up F115, 4 Stroke 2000-Up LF115, 4 Stroke

2005-UP 50, 60, 75 HP **4 Stroke** MERCURY 90-115 HP EFI, 4 Stroke Replaces: Hitachi S114-838A

13-tooth drive gear



3433 (NEW)

FITS: YAMAHA

2004-Up 150 HP, **4 Stroke** 2005-Up 250 HP, 4 Stroke

2006-Up 225 HP, 4 Stroke Replaces: Hitachi S114-867

13-tooth drive gear



3440 (NEW)

FITS: SUZUKI 75/85 HP 1988-2000 2 Stroke

Replaces: Hitachi S114-555

9-tooth drive gear

DV540*

9-tooth drive gear



*Will Fit These Starters Only:

3440, Hitachi S114-555, Suzuki 31100-95601

SR440*

Brush holder assembly w/brushes available



/ WARNING

Cancer and Reproductive Harm www.P65Warnings.ca.gov

3442 (NEW)

FITS: SUZUKI 90/100.

150-225 HP. 2 Stroke Replaces: Hitachi S114-551, S114-674

8-tooth drive gear

DV542*

8-tooth drive gear



*Will Fit These Starters Only:

3442, Hitachi S114-674, Suzuki 31100-92E00

SR442*

Brush holder assembly w/brushes available

/ WARNING

Cancer and Reproductive Harm www.P65Warnings.ca.gov

3444 (NEW)

FITS: SUZUKI

115-140 HP. 2 Stroke Replaces: Hitachi

S114-437, S114-673 9-tooth drive gear

DV544*

9-tooth drive gear





*Will Fit These Starters Only:

4 3444, Hitachi S114-673, Suzuki 31100-94610

SR444*

Brush holder assembly w/brushes available



WARNING







- · Excess oil or grease may cause drive failure.
- Be sure to follow the lubrication directions shown on page 12.



"DO NOT"

SPRAY OIL OR OTHER LUBRICANTS ON O/B STARTER DRIVES

The O/B Starter Drives are Rubber Cushioned
Drives. If any oil gets between the compression
nut and the rubber grip surface, drive failure will result.

"DO"

REMOVE THE DRIVE ASSEMBLY
WHEN APPLYING LUBE TO THE SHAFT

Always remove the drive assembly before applying lube to the shaft. Only apply a thin film of water resistant grease to the shaft. Make sure to wipe off any excess.

3446 (NEW) FITS: HONDA 35,40,45 & 50 HP, 4 Stroke Replaces: Hitachi S114-677, S114-561 Honda 31200-ZV5-013, 31200-ZV5-003 9-tooth drive gear CW Rotation

Starter To be discontinued when present stock is exhausted.

*Will Fit These Starters Only: 3446, Hitachi S114-677

SR446*

Brush holder assembly w/brushes available



WARNING

Cancer and Reproductive Harm www.P65Warnings.ca.gov

3447 (NEW) FITS: HONDA 2002 - UP 115 & 130 HP Replaces: Mitsubishi MOT 60381 Honda: 31200-ZW5-003 13-tooth drive gear



5358 (NEW) FITS: EVINRUDE 40, 50, 75, 90 HP E-Tec Models 9-tooth drive gear

DV358 9-tooth

9-tooth drive gear

SR358

available



Complete rear housing

assembly w/brushes

WARNING

Cancer and Reproductive Harm www.P65Warnings.ca.gov



DV359 9-tooth

9-tooth drive gear

SR359

available



Complete rear housing

assembly w/brushes

 Δ

WARNING

Cancer and Reproductive Harm www.P65Warnings.ca.gov



DV360 9-tooth

drive gear





SR360

Complete rear housing assembly w/brushes available



WARNING





· Excess oil or grease may cause drive failure.

Be sure to follow the lubrication directions shown on page 12.

5361 (NEW)

1993-UP 9.9-15 HP Small 10-tooth drive gear 2" casing

DV361

Small 10-tooth drive gear



WARNING

www.P65Warnings.ca.gov

SR361

Complete rear housing assembly w/brushes available

Cancer and Reproductive Harm

5362 (NEW)

FITS: MERCURY 40-50 HP 1997-UP 4-Stroke 9-tooth metric drive gear

DV362

9-tooth metric drive gear





SR362

Complete rear housing assembly w/brushes available



WARNING

Cancer and Reproductive Harm www.P65Warnings.ca.gov

5363 (NEW)

FITS: O.M.C. 1991-Up 150-175 HP

V6 Eagle-Series

1997-Up V4 and V6 **2003** 75/90/115 HP

2003-UP 90/105/115

60° Engine

2004-UP 100-175 HP Direct Injection

DV517

9-tooth drive gear





DV518 10-tooth drive gear

JSA517

Jack shaft assembly/9-tooth drive gear Fits Johnson Evinrude carbureted engines

Jack shaft assembly/10-tooth drive gear Fits Johnson Evinrude direct injection engines

Complete rear housing assembly w/brushes available



WARNING

Cancer and Reproductive Harm www.P65Warnings.ca.gov

5364 (NEW)

FITS: MERCURY 1998-Up 25 HP, 4 Stroke Yamaha 25 HP, 4 Stroke

9-tooth drive gear

DV364

9-tooth drive gear



SR364

Complete rear housing assembly w/brushes available



WARNING

Cancer and Reproductive Harm www.P65Warnings.ca.gov

5365 (NEW)

FITS: MERCURY

30/40/50/60 HP

1999-Up 3-cyl, 4 Stroke

2000-UP Yamaha

40HP. 4 Stroke

9-tooth drive gear

DV365 9-tooth

drive gear

SR365

available



Complete rear housing

assembly w/brushes



WARNING

Cancer and Reproductive Harm www.P65Warnings.ca.gov

5366 (NEW)

FITS: MERCURY 35-50 HP

9-tooth drive gear

DV366

9-tooth drive gear





SR366

Complete rear housing assembly w/brushes available



WARNING







- · Excess oil or grease may cause drive failure.
- Be sure to follow the lubrication directions shown on page 12.



NOTE

When ordering drive assemblies for B.R.P./O.M.C. starters, be aware that some B.R.P./O.M.C. outboard starters use a 2-piece drive assembly; older B.R.P./O.M.C. starters use a 1-piece drive assembly. ORDER THE CORRECT DRIVE. THEY ARE NOT INTERCHANGEABLE!

5367 (NEW)

FITS: MERCURY/MARINER 1986-1996 6-15 HP 1980-2003 18-25 HP 10-tooth drive gear

21/2" motor casing

DV367

10-tooth drive gear



SR367

Complete rear housing assembly w/brushes available



WARNING

Cancer and Reproductive Harm www.P65Warnings.ca.gov

5368 (NEW) FITS: O.M.C. 1997-2000

9.9/15 HP. 4-stroke 10-tooth drive gear



SR368

Complete rear housing assembly w/brushes available



WARNING

Cancer and Reproductive Harm www.P65Warnings.ca.gov

5369 (NEW)

FITS: O.M.C.

8/9.9-11 HP

1997-1998 4 stroke 1977-1992 9.9-15 HP

10-tooth drive gear

Complete rear housing

assembly w/brushes

2" motor casing

DV369

10-tooth drive gear

SR369

available



WARNING

Cancer and Reproductive Harm www.P65Warnings.ca.gov

Save Time With ARCS SR107 - BRUSH LOADING TOOL See page 57

Makes brush loading as simple as 1-2-3 The "perfect tool" for loading outboard starter brushes. Strong stainless steel construction.



(1) Depress Brushes and Slide End Cap In Tool



(2) Insert Armature





One Tool Fits











- Excess oil or grease may cause drive failure.
- Be sure to follow the lubrication directions shown on page 12.



NOTE

When ordering drive assemblies for B.R.P./O.M.C. starters, be aware that some B.R.P./O.M.C. outboard starters use a 2-piece drive assembly; older B.R.P./O.M.C. starters use a 1-piece drive assembly. ORDER THE CORRECT DRIVE. THEY ARE NOT INTERCHANGEABLE!

5370 (NEW) FITS: O.M.C. 55-75 HP 3-cyl 9-tooth drive gear



SR370

available

DV370* 9-tooth drive gear *See NOTE

Complete rear housing

assembly w/brushes

DVK70* 2-pc drive kit *See NOTE



WARNING

Cancer and Reproductive Harm www.P65Warnings.ca.gov

5371 (NEW) FITS: O.M.C. 50-60 HP 2-cyl 9-tooth drive gear



DV371* 9-tooth drive gear *See NOTE

SR371

Complete rear housing assembly w/brushes available



2-pc drive kit See NOTE

/ WARNING

Cancer and Reproductive Harm www.P65Warnings.ca.gov

5372 (NEW) 85-140 HP V4 Small 10-tooth drive gear



DV372* Small 10-tooth drive gear *See NOTE





SR372

Complete rear housing assembly w/brushes available

/ WARNING

Cancer and Reproductive Harm www.P65Warnings.ca.gov

5372X (NEW)

FITS: O.M.C. 1969-1970 85-115 HP 1971-1972 85-125 HP

Large 10-tooth drive gear





Large 10-tooth drive gear

SR372

Complete rear housing assembly w/brushes available



WARNING

Cancer and Reproductive Harm www.P65Warnings.ca.gov

5373 (NEW) FITS: O.M.C. 150-235 HP V6

8-tooth drive gear



8-tooth drive gear

SR373

available

Complete rear housing

assembly w/brushes





WARNING

Cancer and Reproductive Harm www.P65Warnings.ca.gov



📄 © ARCO STARTING & CHARGING SPECIALISTS





- Excess oil or grease may cause drive failure.
- Be sure to follow the lubrication directions shown on page 12.



NOTE

When ordering drive assemblies for B.R.P./O.M.C. starters, be aware that some B.R.P./O.M.C. outboard starters use a 2-piece drive assembly; older B.R.P./O.M.C. starters use a 1-piece drive assembly. ORDER THE CORRECT DRIVE. THEY ARE NOT INTERCHANGEABLE!



DV374 10-tooth



Complete rear housing assembly w/brushes available

WARNING

Cancer and Reproductive Harm www.P65Warnings.ca.gov

5374X (NEW) **FITS: MERCURY** 1956-1957 25-30 HP **1957** 55 HP 1958 30-55 HP 1959 35 & 55 HP Large 10-tooth drive gear

DV374X Large10-tooth drive gear



WARNING

Cancer and Reproductive Harm www.P65Warnings.ca.gov

5375 (NEW) FITS: MERCURY/MARINER 50-90 HP/65 HP Jet 10-tooth drive gear

10-tooth drive gear



Complete rear housing assembly w/brushes available



WARNING

Cancer and Reproductive Harm www.P65Warnings.ca.gov

5376 (NEW) FITS: O.M.C. 18-40 HP 11-tooth drive gear



DV376*

11-tooth drive gear *See NOTE

SR376





WARNING

Cancer and Reproductive Harm www.P65Warnings.ca.gov

Complete rear housing assembly w/brushes available



DV377 10-tooth drive gear

SR377

Complete rear housing available



WARNING

Cancer and Reproductive Harm www.P65Warnings.ca.gov

SR374

Complete rear housing assembly w/brushes available



assembly w/brushes





Excess oil or grease may cause drive failure.

Be sure to follow the lubrication directions shown on page 12

NOTE

When ordering drive assemblies for B.R.P./O.M.C. starters, be aware that some B.R.P./O.M.C. outboard starters use a 2-piece drive assembly; older B.R.P./O.M.C. starters use a 1-piece drive assembly. ORDER THE

CORRECT DRIVE. THEY ARE NOT **INTERCHANGEABLE!**



DV378X

Large 10-tooth drive gear

SR380

Complete rear housing assembly w/brushes available

WARNING

Cancer and Reproductive Harm www.P65Warnings.ca.gov

5379 (NEW) **FITS: MERCURY/MARINER** 40-50 HP 10-tooth drive gear **DV379** 10-tooth drive gear

SR379

Complete rear housing assembly w/brushes available



WARNING

Cancer and Reproductive Harm www.P65Warnings.ca.gov



drive gear **SR380**

Complete rear housing assembly w/brushes available



WARNING

Cancer and Reproductive Harm www.P65Warnings.ca.gov

5381 (NEW)

FITS: MERCURY 1999-UP 2.5 DFI

1996-1999 200 HP V6 DFI **1998-Up** 225 HP V6 DFI 1999-Up 3.0L V6 9-tooth drive gear



DV381

9-tooth drive gear



Complete rear housing assembly w/brushes available



WARNING

Cancer and Reproductive Harm www.P65Warnings.ca.gov



SR380

Complete rear housing assembly w/brushes available

/ WARNING Cancer and Reproductive Harm

17

www.P65Warnings.ca.gov





- Excess oil or grease may cause drive failure.
- Be sure to follow the lubrication directions shown on page 12



NOTE

When ordering drive assemblies for B.R.P./O.M.C. starters, be aware that some B.R.P./O.M.C. outboard starters use a 2-piece drive assembly; older B.R.P./O.M.C. starters use a 1-piece drive assembly. ORDER THE CORRECT DRIVE. THEY ARE NOT INTERCHANGEABLE!





SR382

Complete rear housing assembly w/brushes available



WARNING

Cancer and Reproductive Harm www.P65Warnings.ca.gov



SR384

Complete rear housing assembly w/brushes available



WARNING

Cancer and Reproductive Harm www.P65Warnings.ca.gov

5385 (NEW) **FITS: MERCURY** 35-40 HP, 2-cvl 10-tooth drive gear

DV385

10-tooth drive gear



SR385

available

WARNING

Cancer and Reproductive Harm www.P65Warnings.ca.gov

5386 (NEW) FITS: O.M.C. 1985-Up 120-140 HP V4

Complete rear housing

assembly w/brushes



DV386* 10-tooth

drive gear *See NOTE

SR386

available



DVK86* 2-pc drive kit *See NOTE



WARNING

Cancer and Reproductive Harm www.P65Warnings.ca.gov

5387 (NEW)

FITS: O.M.C.

V6, V8 loop, 115-300 HP E-TEC 10-tooth drive gear

Complete rear housing

assembly w/brushes



DV387 10-tooth

drive gear



SR387

Complete center housing assembly w/brushes available



WARNING





Excess oil or grease may cause drive failure.

Be sure to follow the lubrication directions shown on page 12.



NOTE

When ordering drive assemblies for B.R.P./O.M.C. starters, be aware that some B.R.P./O.M.C. outboard starters use a 2-piece drive assembly; older B.R.P./O.M.C. starters use a 1-piece drive assembly. ORDER THE CORRECT DRIVE. THEY ARE NOT INTERCHANGEABLE!

5388 (NEW) **FITS: MERCURY** 50-60 HP, 3-cyl, 1991-1996 45 HP Jet

10-tooth drive gear





SR388

Complete rear housing assembly w/brushes available



WARNING

Cancer and Reproductive Harm www.P65Warnings.ca.gov

5389 (NEW) FITS: O.M.C. 1989-Up 25, 40, 50 HP; 2-cyl **1990-Up** 48-50 HP



SR389

available

DV389* 9-tooth drive gear *See NOTE





/ WARNING

Cancer and Reproductive Harm www.P65Warnings.ca.gov

5390 (NEW) FITS: O.M.C.

1987-1993 20-35 HP; 2-cyl 9-tooth drive gear



DV390* 9-tooth drive gear *See NOTE



DVK90* 2-pc drive kit *See NOTE



SR390

Complete rear housing assembly w/brushes available

WARNING

Cancer and Reproductive Harm www.P65Warnings.ca.gov



8-tooth drive gear

SR392

Complete rear housing assembly w/brushes available

WARNING

Cancer and Reproductive Harm www.P65Warnings.ca.gov

5393 (NEW) FITS: CHRYSLER/FORCE 70-150 HP 9-tooth drive gear



DV393 9-tooth drive gear



SR393

Complete rear housing assembly w/brushes available

WARNING

Cancer and Reproductive Harm www.P65Warnings.ca.gov



Complete rear housing

assembly w/brushes



Excess oil or grease may cause drive failure.

Be sure to follow the lubrication directions shown on page 12



NOTE

When ordering drive assemblies for B.R.P./O.M.C. starters, be aware that some B.R.P./O.M.C. outboard starters use a 2-piece drive assembly; older B.R.P./O.M.C. starters use a 1-piece drive assembly. ORDER THE CORRECT DRIVE. THEY ARE NOT INTERCHANGEABLE!

5394 (NEW)

Determine location of the battery stud on starter being replaced before ordering - See 5397

FITS: FORCE 1996-1999 40-50 HP 13-tooth drive gear



13-tooth drive gear

SR394

Complete rear housing assembly w/brushes available



WARNING

Battery stud exits **BOTTOM**

of starter

Cancer and Reproductive Harm www.P65Warnings.ca.gov

5395 (NEW) **FITS: MERCURY/MARINER**

1994-Up 225 HP 8-tooth drive gear



DV395

8-tooth drive gear

SR395

Complete rear housing assembly w/brushes available



WARNING

Cancer and Reproductive Harm www.P65Warnings.ca.gov

5396 (NEW)

FITS: MERCURY 1994-1996 30-40 HP. 2-cyl, 55-60 HP 1997-Up 45 HP Jet

10-tooth drive gear



DV396

10-tooth drive gear



WARNING

Cancer and Reproductive Harm www.P65Warnings.ca.gov

SR396

Complete rear housing assembly w/brushes available

5397 (NEW)

Determine location of the battery stud on starter being replaced before ordering - See 5394

FITS: FORCE

1992-1995 40 HP

1992-1995 50 HP 13-tooth drive gear



exits SIDE of starter

Battery stud

13-tooth drive gear

SR397

Complete rear housing assembly w/brushes available



WARNING

Cancer and Reproductive Harm www.P65Warnings.ca.gov

FITS: O.M.C.

1997-1999

25-35 HP 3-cvl

10-tooth drive gear



SR398

Complete rear housing assembly w/brushes



WARNING

Cancer and Reproductive Harm www.P65Warnings.ca.gov

available





Excess oil or grease may cause drive failure.

Be sure to follow the lubrication directions shown on page 12.



NOTE

When ordering drive assemblies for B.R.P./O.M.C. starters, be aware that some B.R.P./O.M.C. outboard starters use a 2-piece drive assembly; older B.R.P./O.M.C. starters use a 1-piece drive assembly. ORDER THE CORRECT DRIVE. THEY ARE NOT **INTERCHANGEABLE!**

5399 (NEW) **MOTOR ONLY** FITS: O.M.C. 90-115 HP 1997-UP 60° V4 1998-2000 80 HP 1998-2000 100 HP





JSA517

Jack shaft assembly/9-tooth drive gear Fits Johnson Evinrude carbureted engines



SR399

Complete rear housing assembly w/brushes available



WARNING

Cancer and Reproductive Harm www.P65Warnings.ca.gov

5400 (NEW) **FITS: MERCURY** 2001-UP 135-250 HP 200-250 Sport Jet 2005-UP **VERADO 4 STROKE**

200-275 HP 14-tooth drive gear

Replacement solenoid



5551 (NEW) FITS: CHRYSLER 25-35 HP Large 10-tooth drive gear



DV551 Large 10-tooth drive gear

SR551

Complete rear housing assembly w/brushes available



WARNING

Cancer and Reproductive Harm www.P65Warnings.ca.gov



DV325 9-tooth

drive gear

SR325

Complete rear housing assembly w/brushes available



WARNING

Cancer and Reproductive Harm www.P65Warnings.ca.gov





SR326

available

Complete rear housing

assembly w/brushes





WARNING





An ARCO Warranty Protects You From Defects in MATERIALS OR WORKMANSHIP... The Warranty DOES NOT cover such things as:



FREIGHT DAMAGE

part boxes are not shipping boxes.

If you are shipping a part to a customer or sending a warranty return, the part must be packaged in a way to prevent possible damage. Place extra packing material around the part, place it back in the part box and then into a well packed, sturdy shipping container.

To prevent damage, properly pack all parts before reshipment.







BROKEN SOLENOIDS

The solenoid was not broken when the starter was packaged to be shipped. We have special boxes made for the starters, and we use special packing materials to ensure the item will arrive to the customer safely. Sometimes, though, the packages are mishandled by the carrier (i.e., dropped or thrown) and the solenoid becomes damaged. This is the carrier's responsibility. It is not a material defect; therefore it is **not covered by warranty.**





RUST, CORROSION, SUBMERSIONS OR BURNOUTS

However, it is impossible to protect the unit from direct contact with water. Therefore, a failure directly caused by rust, corrosion or submersion is **not covered by warranty.** Starter burnouts are caused by the starter running for extended periods of time without a cool down period causing the windings to overheat. This could be caused by a defective ignition switch, water in the ignition switch, defective starter relay or cranking for long periods of time without allowing the starter to cool down. Burnouts **are not covered by warranty.**

BROKEN MOUNTING FLANGES OR SHAFTS

A broken flange is typically caused by improper installation. The mounting holes may look evenly spaced in a triangular pattern, but they are not—one hole is slightly offset. Forcing a mounting bolt into the offset hole may cause the flange to break. This may also occur if the mounting bolts are not tightened evenly. A broken shaft is caused by a malfunction in the gearbox. These breaks are not material defects, and they are **not covered by warranty.**





CUT WIRES OR DISMANTLED UNITS

Cutting a unit's wires or dismantling a unit immediately voids the manufacturer's warranty. In addition, taking a motor off the reservoir and trying to install it on an old reservoir usually damages the brushes and seals in the motor. Disassembled parts are **not covered by warranty.**

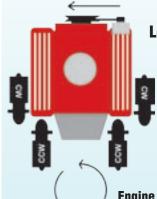
BROKEN NOSE HOUSINGS, DRIVE GEARS OR INTERNAL GEARS

This type of failure is always blamed on a bad casting, defective drive gear or internal gears. In fact, it is caused when a starter, spinning at a high rate of rpm, comes to an abrupt stop. This can occur when an engine backfires or momentarily releasing the start switch and re-engaging the starter before it has spun down. It may also happen when a cylinder suffers a water hydraulic lock. In either case, the damage is not due to a defective part, and is **not covered by warranty.**



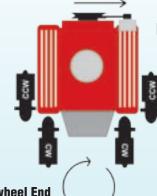


How To Determine The Correct Starter Rotation



Left Hand Engine Rotation

This is the most common engine rotation found on today's marine engines. This is the same rotation as automotive engines. Use these charts to determine the correct starter rotation needed.



Right Hand Engine Rotation

This is not very common on today's marine engines. This is the opposite rotation of automotive engines.

Engine Rotation Viewed From The Flywheel End

Another way to determine the starter rotation is to inspect the chamfer on the starter drive gear. The bevel will always be on the trailing edge.

Important Check Points



Clockwise Rotation



Counter Clockwise Rotation

Important Check Points



High Resistance

This is a very common problem found in marine electrical systems. Corrosion, undersized wire, or bad connections will cause low voltage to the electrical components. Low voltage causes high heat and will destroy electrical devices. Be sure to check for voltage drops.



Worn Out Battery

Batteries cause more trouble than any other component in a marine electrical system.

Always make sure the battery is completely charged and load tested before replacing other components.



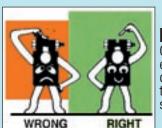
Incorrect Wiring

Incorrect wiring can cause burnouts. Always tag the wires when removing an electrical component. If you are not sure how to connect the wires call our technical department toll free at 800-722-2720.



Loose Connections

Be sure to check all the terminals and connections and make sure they are clean and tight.



Loose Battery ClampsCable terminals must be tight. If the

Cable terminals must be tight. If the ends of the clamps touch at the top, disconnect the cable clamps and shave the ends of the clamp jaws with a file so there is a gap.

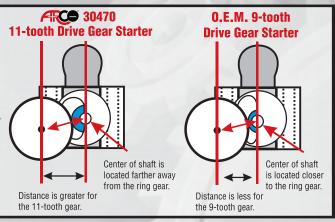


DRIVE GEARS

DID YOU KNOW...

Did you know the gear profile for the 9-tooth O.E.M. gear reduction starter and the 11-tooth ARCH High Performance gear reduction starter are the same?

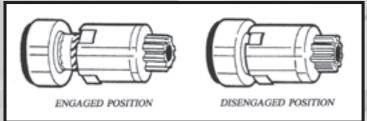
The only difference is the diameter of the drive gear. Since the 11-tooth drive gear has two more teeth it is naturally larger in diameter. To compensate for its smaller diameter, the center of the 9-tooth drive gear is located closer to the flywheel. Both starters are thus completely interchangeable. These are powerful starters and we are able to take advantage of a better gear ratio using this 11-tooth gear.





INERTIA DRIVES GEARS

As shown here, spinning the drive with a wire wheel in the direction it clicks will disengage the locks.



Do not condemn a drive until it has been tried in actual operation and proven faulty.

The Folo-Thru type drive currently used on many starting motors has brought about difficulty due to a misunderstanding of operating and lack of information on proper servicing. This fact has been reflected by the number of drives returned for warranty which are fully operative.

The Folo-Thru drive is designed to lock and remain in the extended or engaged position until the engine starts and reaches approximately 400 to 500 RPM. The drive to flywheel rotation is fifteen to one. When the engine is turning at 400 RPM, the starter drive gear is turning 6,000 RPM. If the drive is locked in the extended position it has to be reinstalled on the engine and the engine started or the drive must be turned in excess of 6,000 RPM by a wire wheel mounted on an electric bench grinder to make it disengage.

The reason the pinion locks in the engaged position is to assure the starter continues to crank until the engine has started, thus preventing false starts. This is accomplished by using a spring loaded pin which rides on one of the pinion screw threads and drops into a hole when the pinion is in the fully engaged position. This locks the pinion in the engaged position. When the engine starts, the flywheel of the engine drives the starter pinion. A clutch mechanism is built into the pinion to protect the starter from excessive RPM.

The clutch allows the pinion to turn faster or overrun the armature shaft. When the engine reaches 400-500 RPM, the pinion spins fast enough to create the needed centrifugal force to throw the spring loaded pin out of the hole in the shaft and allow the pinion to disengage.





We could tell you why your starter failed, but we thought you might like to see for yourself.

If left unchecked, these problems will result in premature starter failure REGARDLESS of the STARTER MANUFACTURER.





Although the outside of the starter (at bottom right) looks fine, the flywheel picked up water from the bilge and pumped it inside the starter causing the corrosion shown here.

WATER INTRUSION IS THE #1 CAUSE OF STARTER FAILURE. If water gets pumped into the motor portion of the starter from the flywheel, it will not drain out. As you can see, rust and corrosion will destroy the inside components of the starter.





Shown here are damaged starter mounting pads. Water ingested into the engine stresses the mounting bolts beyond normal conditions. The bolts stretch and cause the starter to become loose. This could eventually lead to damage to the ring gear, starter casting and possibly the entire engine block.

THE #2 CAUSE OF STARTER FAILURE IS WATER INGESTED INTO

THE ENGINE. Leaking exhaust manifolds, gaskets and risers are often the source. Damage to the mounting pads, as shown above, indicate the starter has been loose on the engine; possibly caused by water ingestion into the cylinder. Although the engine may not experience a complete hydro lock, if enough water is on top of the piston to raise the compression to a high level, the starter bolts and mounting pads will be stressed beyond normal load conditions.



outside condition of the starter appears to be fine, but by removing and inspecting the lower starter case bolt, it is obvious water has gotten inside the starter.

These problems are not the fault of the starter. Simply replacing the starter without first locating and correcting the source of water intrusion will only result in more starter failures.

Questions?
In need of a replacement starter?
Give us a call.







Rust, Corrosion or Submersions are

NOT COVERED BY WARRANTY



However, it is impossible to protect the unit from direct contact with water. Therefore, a failure directly caused by rust, corrosion or submersion is not covered by warranty.

30433 (NEW)
VALUE PRICED!
STANDARD DUTY
Direct O.E.M. replacement
Gear-reduction starter.
FITS: ALL GM ENGINES
with 14" flywheel using a
staggered bolt pattern.
Recommended for late model 3.0 Liter
with 14" flywheel using tail bracket.

Can also be used in place of 10MT with two long bolt staggered pattern or 30470!

*Mounting bolt kit MBK450 required if replacing 10MT.

\$W463 Replacement Solenoid

30456 (NEW) HIGH-PERFORMANCE

FITS: MERCRUISER, CRUSADER, MARINE POWER,

PLEASURECRAFT, AND OTHERS.

14MT. CW Rotation

30457 (NEW)
HIGH-PERFORMANCE
FITS: MERCRUISER,
CRUSADER, MARINE POWER,
PLEASURECRAFT, AND OTHERS.
14MT, CCW Rotation



Replaces this 10 MT style starter

DV456

CW Rotation Replacement Drive **Fits: Delco** 14 MT, 30456 starter



DV457

CCW Rotation Replacement Drive **Replaces: Mercury 850402**

Fits: Delco 14 MT, ATC 30457 starter

SW456

14 MT Replacement Solenoid 4 Post, 3-Bolt Mount





30459 (NEW)
HIGH-PERFORMANCE
FITS: MERCRUISER,
CRUSADER,
MARINE POWER,
AND OTHERS.
Light weight and compact;

Permanent magnet, Gear-reduction. CCW Rotation

SW463 Replacement Solenoid

30460 (NEW)
HIGH-PERFORMANCE
Permanent magnet
Gear-reduction starter
FITS: MERCRUISER,
COBRA, YAMAHA,
VOLVO PENTA
CW Rotation
1234" flywheel





starter

30460 Will Replace all CW Rotating 10MT Starters with One Long and One Short Bolt Straight Across Pattern.

SW450

INCLUDES

MOUNTING

BOLTS & GASKET

Replacement solenoid
For ACO 30460 & 30470 only!



ARCO STARTING & CHARGING SPECIALISTS ©



Rust, Corrosion or Submersions are NOT COVERED BY WARRANTY

ARCE treats every component with special rust and corrosion resistant coatings to prevent water damage. However, it is impossible to protect the unit from direct contact with water. Therefore, a failure directly caused by rust, corrosion or submersion is not covered by warranty.

30462 (NEW) FITS: 6.0L GM **ENGINES Permanent magnet Gear-reduction starter** with two long bolt slight offset bolt pattern

SW463 Replacement Solenoid

30470 (NEW) HIGH-PERFORMANCE **Permanent magnet Gear-reduction** starter FITS: VOLVO PENTA, MERCRUISER, MARINE POWER. ETC. Two long bolt staggered pattern 14" flywheel, **CW Rotation** Will also replace 9-tooth OEM version.





Replaces this 10 MT style starter

MBK450

MOUNTING BOLT KIT REQUIRED if replacing 10MT style starters.



SW450

Replacement solenoid For \$\infty\$ 30460, & 30470 only!



50109

HEAVY-DUTY FITS: CHRYSLER 318 Marine V8 Two-bolt mount, 1 threaded hole 12 Volt, CW rotation



12 Volt, CCW Rotation



50134

HEAVY-DUTY

FITS: CHRIS CRAFT, HARMAN MARINE

Three-bolt mount (two 3/8" holes, one 5/16" threaded hole) 12 Volt, **CW Rotation**

50135

12 Volt. CCW rotation



Electrical Technical Manual

Published by Mechanics for Mechanics

TM001

Electrical Technical Manual

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Rust, Corrosion or Submersions are NOT COVERED BY WARRANTY



However, it is impossible to protect the unit from direct contact with water. Therefore, a failure directly caused by rust, corrosion or submersion is not covered by warranty.

50137

HEAVY-DUTY

FITS: CHRIS CRAFT AND OTHERS

Three-bolt mount, (two 3/8" holes, one 5/16"

threaded hole)
12 Volt, **CW Rotation**

50138

12 Volt, CCW rotation



50141

HEAVY-DUTY
12 Volt, CCW rotation

50142

HEAVY-DUTY FITS: CHRIS CRAFT, VOLVO PENTA V8 Two-bolt mount

12 Volt, CW rotation



50143

HEAVY-DUTY
FITS: MERCRUISER 470
Threaded mounting

stud in case 12 Volt, **CW rotation**



50160

HEAVY-DUTY
FITS: CHRIS CRAFT
Three-bolt housing
12 Volt, CW rotation

50161

HEAVY-DUTY
FITS: CHRIS CRAFT
12 Volt, CCW rotation



50169

HEAVY-DUTY
FITS: MERCRUISER
888, 302, 351 FORDS
Two-bolt mount
12 Volt, CW rotation



70106

FITS: CRUSADER AND OTHERS W/FORD ENGINES

Nose extends 2" into flywheel Two-bolt mount 12 Volt, CW rotation Side battery terminal

70107

12 Volt, **CCW rotation Side battery terminal**

SW394

Replacement solenoid

To be discontinued when present stock is exhausted.









Rust, Corrosion or Submersions are NOT COVERED BY WARRANTY

ARCE treats every component with special rust and corrosion resistant coatings to prevent water damage. However, it is impossible to protect the unit from direct contact with water. Therefore, a failure directly caused by rust, corrosion or submersion is not covered by warranty.

70108

FITS: 460 FORDS **Heavy Duty** 12 Volt. CW rotation



To be discontinued when present stock is exhausted.

70117

FITS: MANY LATE MODEL FORDS

Mod II style; 41/2" diameter case Nose extends 2%" into flywheel **Two-bolt mount** 12 Volt, CW rotation

Rear battery terminal

SW394 Replacement solenoid

To be discontinued when present stock is exhausted.

70125 (NEW) **HIGH PERFORMANCE Permanent magnet Gear-reduction starter FITS: MANY LATE MODEL** 5.0L, 5.8L FORDS 12 Volt, CW rotation

SW125

Replacement solenoid



HIGH PERFORMANCE **Permanent magnet Gear-reduction starter** FITS: 302, 351 FORDS 12 Volt, CW rotation Kit includes wiring harness to replace conventional starter.

70201 (NEW) HIGH PERFORMANCE **CCW ROTATION**

Same as above except **CCW rotation.**



Will also replace conventional style starter

SW125 Replacement solenoid

HIGH PERFORMANCE **Permanent magnet Gear-reduction starter FITS: 460 FORD ENGINES Replaces: 0.M.C.** 988013 12 Volt, CW rotation Two-bolt mount with 3/8" x 18 threaded mounting ear. Kit includes wiring harness to replace conventional starter.



Will also replace conventional style starter

SW125 Replacement solenoid







Rust, Corrosion or Submersions are NOT COVERED BY WARRANTY



reats every component with special rust and corrosion resistant coatings to prevent water damage. However, it is impossible to protect the unit from direct contact with water. Therefore, a failure directly caused by rust, corrosion or submersion is not covered by warranty.

70216 (NEW) **HIGH PERFORMANCE Permanent magnet Gear-reduction starter FITS: 2.3L FORD ENGINES Replaces: 0.M.C.** 988012 12 Volt, CW rotation Three-bolt mount. Kit includes wiring harness to replace conventional starter.





Will also replace conventional style starter

97225 (NEW) Gear-reduction starter FITS: VOLVO PENTA TMD40, TMD41. KAD42 and others. **Replaces: PARIS RHONE/VALEO** D9R116, D9R144, D11E167T Three-bolt mount, 12 Volt, CW rotation



SW225 Replacement solenoid

DV225 Replacement drive gear

Lucas M45G starter FITS: PERKINS 4-108VA propulsion 13-tooth drive gear 12 volt. CW rotation

> To be discontinued when present stock is exhausted.



98180 (NEW)

FITS: YANMAR GM. GM2. GM3.

GM10, GM20/2-20F, GM30, GMF, 1GM, 2GM, 3GM

Replaces: HITACHI S114-303, S114-303A



98185 (NEW)

FITS: YANMAR

3JH and 4JH, engines Replaces: HITACHI S114-483. S114-815



10113 (NEW) Gear-reduction starter **FITS: VOLVO PENTA**

4 cyl, 6 cyl gas Aluminum pinion housing w/2 threaded mounting holes

Permanent magnet, 12 volt, CW rotation



12213 (NEW) FITS: CUMMINS 6BT. 10-tooth drive gear 12 Volt, CW rotation







IMPORTANT BATTERY FACTS

A good battery can provide four or five years of worry-free service with the right kind of care.

Bigger is better! The battery you are replacing does not have to be the same size as the original. **IT IS ALWAYS BETTER TO HAVE EXTRA BATTERY CAPACITY.**

POINTS TO REMEMBER

- The battery is the heart of the electrical system
- Always start troubleshooting at the battery
- Never store a battery in a discharged state
- Never add anything except distilled water to a battery



DRY CHARGED BATTERIES MUST BE CHARGED BEFORE USING



Many small batteries are supplied with the electrolyte in a separate container. If you have to fill a new battery with electrolyte, **YOU MUST PLACE THE BATTERY ON A QUICK CHARGER.** The charging system will never bring the battery to a fully charged state. **THE BATTERY CAPACITY WILL NEVER BE ABOVE 80%.** Pulling the battery out later and trying to charge it will not work. **THE BATTERY'S CAPACITY HAS BEEN PERMANENTLY CUT BY 20% AND THERE IS NOTHING YOU CAN DO ABOUT IT.**

BATTERIES WILL SELF DISCHARGE WHEN STORED

Batteries will self discharge when stored for long periods of time. This is a normal process with all lead acid batteries. Always charge the battery to full charge before storing. Also disconnect the negative battery cable. This will keep the small system drains from accelerating the discharge process. The best way to avoid shortened battery life is use a SMART CHARGER (not a trickle charger) on the battery when it's not being used. A smart charger is a charging device that will maintain the battery at a full state of charge by only charging the battery when the voltage drops to a specified level without overcharging.



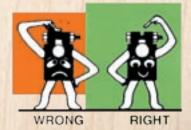
ELECTROLYTE BECOMES WATER IN A DISCHARGED BATTERY



As a battery becomes discharged the percentage of sulfuric acid in the electrolyte becomes less. The sulfuric acid combines with the lead plates producing lead sulfate. As this happens **the electrolyte solution becomes pure water.** A discharged battery will freeze in cold climates, which will destroy the insulators and plates inside it.

LOOSE BATTERY TERMINAL ENDS CAN DESTROY A BATTERY

Loose or corroded battery cable lugs can cause all sorts of problems. When the starter is engaged the loose or corroded connection can cause a heavy arc which will melt the post right out of the battery. If the battery is gassing, the arc can cause the battery to explode. Never use the temporary type battery ends. These are only good for emergency use and will become corroded in a short period of time. Always use a crimped and sealed battery cable end or replace the battery cable.



Make sure there is a gap between the ends of the terminal when tight.







DO NOT CUT WIRES OR DISMANTLE UNITS

Cutting a units wires or dismantling a unit immediately voids the manufacturer's warranty. Water can easily seep into the motor through cut wiring. In addition, taking a motor off the reservoir and trying to install it on an old reservoir usually damages the brushes in the motor. Disassembled parts are not covered by warranty.

6204 (NEW) FITS: 0.M.C. 3-wire connection 2-bolt mount





6206 (NEW) FITS: 0.M.C. 3-wire connection **3-bolt mount**



6209 (NEW) FITS: 0.M.C. 2-wire connection



6211 (NEW) FITS: 0.M.C. stern-drive 1979-1985 2.5L, 3.0L 3-wire connection Ring Terminal Ends





6213 (NEW) FITS: GOOD AUTOMATIC WINDLASS

Ring Terminal Ends



Will also replace units with this style shaft



6216 (NEW) (MOTOR/RESERVOIR ONLY)



6217 (NEW) (MOTOR/RESERVOIR ONLY) FITS: B.M.W., MERCRUISER, **VOLVO PENTA**

Includes: Screws. gasket & adapter Ring Terminal Ends

TAK217

Screws, gasket, adapter



To be discontinued when present stock is exhausted

TR217

Complete end cap assembly w/brushes and springs available



WARNING

Cancer and Reproductive Harm www.P65Warnings.ca.gov

6218 (NEW) (MOTOR ONLY) FITS: MERCRUISER I/O'S AND **MERCURY OUTBOARDS** W/OILDYNE PUMP

12 Volt

Ring Terminal Ends

6219

24 Volt Slow speed motor Fits Jack lift for racing outboards



TR218

Brush repair kit for 6218



WARNING

Cancer and Reproductive Harm www.P65Warnings.ca.gov

6220 (NEW) **HEAVY-DUTY**

FITS: O.M.C.

2-wire connection

Includes 0-ring 3-bolt mount

Male Spade Terminal Ends

96" Leads

R473

Relay available

6220X (NEW) HEAVY-DUTY, FITS: O.M.C.

2-wire connection, Includes O-ring, 3-bolt mount Male Spade Terminal Ends

62" Leads

6223 (NEW) **HEAVY-DUTY FITS: VOLVO PENTA**

Female Spade Terminal Ends







6224 (NEW) (COMPLETE) **FITS: VOLVO PENTA**

Includes: Hydraulic valve body Ring Terminal Ends

6225 (NEW) (MOTOR/ RESERVOIR ONLY) Fits: PRESTOLITE

To be discontinued when present stock is exhausted



Replaces this style **Prestolite Pump**

6227 (NEW) (COMPLETE) FITS: VOLVO PENTA - THRU 1999 **W/OILDYNE PUMP**

6232 (MOTOR ONLY)



M531 (NEW) FITS: (#C) 6227 Includes: Reservoir, cap, and **0-ring**

Fits Oildyne Pump ONLY

For new style 4 screw mount see M533 in miscellaneous section



6232 (NEW) (MOTOR ONLY) FITS: (#C) 6227, LATE MODEL **VOLVO PENTA W/OILDYNE PUMP** 2-wire connection



FITS: LATE MODEL **VOLVO PENTA SX** MODELS. Replaces Teleflex

Motor and Volvo part number 3861575



Distance between mounting bolts: 2.3" Bolt size: 10x24 coarse thread

6234 (NEW) **HEAVY-DUTY** FITS: HONDA 2002-Up BF175, BF200, BF225 4-bolt mount. Round Plug-In Connector **Includes 0-ring** Replaces Honda part number 36120-ZY3-013



NEED TECHNICAL **ASSISTANCE?**

BOO-722-2720



6235 (NEW) HEAVY-DUTY **FITS: HONDA 2004-Up** BF135, BF150 4-bolt mount, Round Plug-In Connector **Includes 0-ring** Replaces Honda part number 36120-ZY6-013



6238 (NEW) **HEAVY-DUTY** Fits: 0.M.C. 1998-Up 75 HP-250 HP FFI **Outboard Engines** 4-bolt mount, Female Sealed Terminal Ends **Includes 0-ring**



6236 (NEW) **HEAVY-DUTY** FITS: HONDA **2007-Up** BF75, BF90 4-bolt mount, Round Plug-In Connector **Includes 0-ring** Replaces Honda

part number 36120-ZY9-003



6239 (NEW) **HEAVY-DUTY** FITS: HONDA 1992-2002 35-50 HP 2-wire connection Includes O-ring 4-bolt mount **Hollow-hex shaft** Female Spade Terminal Ends



6237 (NEW) **HEAVY-DUTY FITS: HONDA** 2004-Up BF40, BF50 4-bolt mount, Round Plua-In Connector **Includes 0-ring** Replaces Honda part number



6240 (NEW) **HEAVY-DUTY FITS: YAMAHA** 1997-UP 115 HP 2000-UP 115 HP 4-Stroke 1997-2000 130 HP 1997-UP 150-200 HP **1998-UP** 225 HP 2-wire connection 4-bolt mount. Ring Terminal Ends **Includes 0-ring**



36120-ZW4-H12



6241 (NEW)

HEAVY-DUTY

FITS: 0.M.C. 60, 70, 90, 115, 150, 175 HP **1991-Up** 200, 225 HP.

1991-94 120, 140 HP

1995-UP 50 HP 3-cyl, 60 HP, V4 130 HP

1997-Up 115-200 HP

1998-99 225 HP 2-wire connection

4-bolt mount, Flat-blade shaft Female Spade Terminal Ends

R473

Relay available

Includes O-ring and adaptor to replace motors with hollow hex shafts

ALSO REPLACES OEM MOTORS WITH HOLLOW HEX SHAFT



R473

Relay available

6243 (NEW)
HEAVY-DUTY
FITS: O.M.C.
1989-1992 M-suffix 40, 48, 50 HP
2-wire connection;
4-bolt mount, Includes O-ring
Hollow-hex shaft
Male Spade Terminal Ends

R473

Relay available



6244 (NEW)

HEAVY-DUTY FITS: O.M.C.

1993 V6

1993-Up Commercial V8

2-wire connection;

3-bolt mount, Includes 0-ring Flat-blade shaft

Female Spade Terminal Ends

R473

Relay available



6247 (NEW)

HEAVY-DUTY

FITS: EVINRUDE ETEC

2005-2009 70-90 HP

2007-2009 115 HP

2009- 130 HP

2-wire connection

4-bolt mount, Includes TAK247 mounting kit,

Flat-blade shaft



Mounting bolts, flat washers, O-ring and couplers





6248 (NEW) HEAVY-DUTY

FITS: EVINRUDE ETEC 2005-2009 40-50 HP

2006-2009 60 HP

2009- 25-30 HP

2-wire connection

4-bolt mount, Includes TAK247 mounting kit,

Flat-blade shaft



Mounting bolts, flat washers, O-ring and couplers





Do you have questions about wire wound or permanent magnet tilt/trim motors? If so, call 1-800-722-2720 or 1-850-455-5476, Monday - Thursday, 7:00 a.m. until 5:30 p.m. central time. Our technical experts know the answers and are always happy to help.



REPLACEMENT TILT/TRIM MOTORS & REPAIR KITS

6250 (NEW) **HEAVY-DUTY**

FITS: Late model MERCURY

135, 150 XR6, Magnum III, 175, 200, 225, 250 HP, 105-140 HP Jet 2-wire connection.

2-bolt mount

Includes 0-ring

Flat-blade shaft

Bullet Connector Terminal Ends

This motor will NOT replace an early model Mercury cartridge pump motor!



6255 (NEW) **HEAVY-DUTY FITS: Late model MERCURY/FORCE** 25-50 HP outboards

2-wire connection 4-bolt mount

Flat-blade shaft **Bullet Connector** Terminal Ends



6257 (NEW) **HEAVY-DUTY FITS: YAMAHA** 2004-2015 50/60HP 4 Stroke, 2-wire connection 3-bolt mount, ring

terminal ends

Includes 0-ring

Replaces Yamaha part numbers 6C5-43880-01 & 6C5-43880-00



6258 (NEW) **HEAVY-DUTY FITS: YAMAHA** 2005-UP 75 HP 4 Stroke 2005-UP 90 HP 4 Stroke 2-wire connection

4-bolt mount **Includes O-ring & Coupler**

Ring Terminal Ends



6259 (NEW)

HEAVY-DUTY **FITS: YAMAHA**

2001-2004 50 HP 4 Stroke

2002-2004 60 HP 4 Stroke 2001-2006 40 HP 2 Stroke (TLR)

2003-2009 50 HP 2 Stroke (TLR)

2-wire connection

3-bolt mount **Includes 0-ring**

Ring Terminal Ends

OEM unit pictured ARCO Replacement will look different



6260 (NEW)

HEAVY-DUTY

FITS: YAMAHA

1992-2002 90 HP

1992-1995 50-90 HP 1994 40 HP

1996 70-90 HP

1997-Up 60, 70, 90 HP

2-wire connection,

3-bolt mount

Includes O-ring Flat-blade shaft

Ring Terminal Ends



6261 (NEW)

HEAVY-DUTY

FITS: YAMAHA 1999-2004 75, 80, 90 &

100 HP 4 Stroke O/B Engines

2-wire connection

4-bolt mount,

Ring Terminal Ends

Includes 0-ring



6263 (NEW) **HEAVY-DUTY**

FITS: YAMAHA

2002-2009 200, 225.

250 HP 4 Stroke

2002-2009 200-300 HP

2 Stroke

2-wire connection

3-bolt mount **Includes 0-ring**

Ring Terminal Ends





REPLACEMENT TILT/TRIM MOTORS & REPAIR KITS



6264 (NEW)
HEAVY-DUTY
FITS: YAMAHA
1985-1992
40-50 HP
2-wire connection
4-bolt mount,
Includes 0-ring
Ring Terminal Ends



6265 (NEW)
HEAVY-DUTY
FITS: YAMAHA
1987-1995
115-200 HP Outboards
1990-1993 225 HP
2-wire connection
3-bolt mount
Includes 0-ring
Flat-blade shaft
Ring Terminal
Ends



6266 (NEW) FITS: YAMAHA 1995-Up 40/50 HP 2-wire connection 3-bolt mount Includes 0-ring Ring Terminal Ends



6267 (NEW) FITS: YAMAHA Early 70, 90,115, 150-200 HP 3-wire connection 3-bolt mount Ring Terminal Ends 4-mm thick shaft blade with 68.3-mm mounting collar.

Includes 0-ring



6268 (NEW)
FITS: SUZUKI ONLY
1991-1997 DT90,
1991-2000 DT100,
1991-2003 DT150,
1991-2000 DT200,
1991-2003 DT225
WILL NOT FIT TOHATSU OR
NISSAN. 2-wire connection
3-bolt mount
Includes 0-ring and adaptor

Ring Terminal Ends

6269 (NEW)
FITS: SUZUKI DT 150/200
3-wire connection
3-bolt mount
Includes 0-ring
Ring Terminal Ends

6270 (NEW)
(COMPLETE)
FITS: Late model MERCURY
225-275 HP Outboards w/Oildyne pump
Ring Terminal Ends
6271 (NEW)
(COMPLETE)
Slow speed unit used for racing applications



ARCO STARTING & CHARGING SPECIALISTS © PAGE

shaft adaptor, O-ring

Ring Terminal Ends

and fill plug.





REPLACEMENT TILT/TRIM MOTORS & REPAIR KITS

6275 (NEW) (COMPLETE)

FITS: Late model MERCRUISER w/Oildyne pump

Ring Terminal Ends

6218 MOTOR ONLY



Reservoir kit FITS: (#C) 6275

Includes: Reservoir, cap, O-ring,

mounting screw

For new style 4 screw mount Mercruiser 883166A2 see M532 in miscellaneous section





6276 (NEW)

HEAVY-DUTY FITS: Late model

MERCURY/MARINER, FORCE

40-125 HP outboards w/single ram 2-wire connection

4-bolt mount

Hollow-hex shaft

(Motor/Reservoir Only)

Includes stainless steel mounting screws, shaft adaptor, O-ring and fill plug.

Bullet Connector Terminal Ends





Will also replace these style units

TAK276

Mounting bolts, O-ring, fill cap and shaft adapters for tilt/trim motors



6277 (NEW) (MOTOR ONLY) FITS: ARCO cartridge pump 6278 only! 2-bolt mount Ring Terminal Ends



Motor WILL NOT fit original Mercury pump.

To be discontinued when present stock is exhausted

6279 (NEW)

FITS: MERCURY/MARINER

outboards w/Design II 3 ram, three-wire trim units Hollow-hex shaft

W/AFT FILL RESERVOIR

3-wire connection

2-bolt mount

Shaft adaptor and O-ring included.

Ring Terminal Ends







Replaces this square motor



AFT FILL RESERVOIR



CHARGING SYSTEMS



NOTE: ALTERNATORS ARE NOT BATTERY CHARGERS

* ENGINE HORSEPOWER REQUIRED FOR ALTERNATORS

For every 23 AMPS of alternator output about one horsepower is required.FOR EXAMPLE: A 12 volt, 115 AMP alternator requires 5 horsepower.
(115 divided by 23 = 5 horsepower). A 24 volt unit requires twice the horsepower.



* ALTERNATORS ARE NOT BATTERY CHARGERS

Alternators are designed to supply current for the accessory load and maintain the charge of the battery. **Most alternators can safely charge at only two-thirds of their maximum rated output.** When trying to recharge a dead battery, the alternator will charge at maximum output for extended periods of time causing the alternator to overheat. **High heat destroys** transistors, diodes and windings.



* ONE-WIRE ALTERNATORS CAN NOT BE USED WITH BATTERY ISOLATORS

One-wire alternators, sometimes referred to as self-exciting alternators, require battery voltage at the output terminal in order to charge. Since battery isolators eliminate the battery voltage to the alternator, you must use a battery isolator with an ignition excite capability or modifications must be made to the alternator to allow ignition excitation.



* ALTERNATORS MUST TURN THE PROPER RPM IN ORDER TO FUNCTION

Just because the alternator looks like it's turning, doesn't mean it's turning fast enough to charge. **Most alternators do not start charging until they reach 1,000 RPM** alternator shaft speed. 5,000 RPM alternator shaft speed is normally required to reach maximum output. If you're not sure what the alternator shaft speed is, you can determine this with the pulley ratio. Measure the diameter of the crank shaft or drive pulley and the alternator pulley. Divide the crank shaft pulley diameter by the alternator pulley diameter. This figure would be the engine-to-alternator RPM ratio. A normal ratio would be 2.5 to 1. For example, let's say we have a 7 inch diameter crank shaft pulley and a 2.75 inch alternator pulley. We would divide 7 inches by 2.75 which equals 2.54 to 1. If the engine was turning 1,000 RPM we would multiply 1,000 by 2.54 which would give us 2.540 alternator RPM.



Alternator

Again, with today's high amperage alternators, belt condition and tension are critical in proper alternator performance.

Crankshaft Pulley

IF YOU ARE ABLE TO TURN THE ALTERNATOR FAN BY HAND. YOU DO NOT HAVE THE BELT TIGHT ENOUGH.



* ALTERNATORS WILL CHARGE WHEN TURNING IN EITHER DIRECTION

* NEVER DISCONNECT THE BATTERY CABLE WHEN THE ALTERNATOR IS CHARGING

A common practice with the old generator system was to disconnect the battery cable while the engine was running to see if the generator was working. If this procedure is done on today's transistorized alternator systems, severe damage to the internal components of the alternator usually will be the end result. This includes using a battery selector switch while the engine is running.





20100

FITS: MANY DIESEL ENGINES 12 Volt, 70 AMP

Self exciting internal regulator Negative ground

1-wire connection

2-inch mounting foot Single groove pulley included

For high-amp (12 Volt, 105 Amp) replacement alternator, see 60122 on Page 46.



20102

FITS: MERCRUISER, O.M.C. 12 Volt, 70 AMP

Self exciting

Ignition protection screens

Internal regulator Negative ground

1-wire connection 2-inch mounting foot

Single groove pulley included

For high-amp (12 Volt, 105 Amp) replacement alternator, see 60122 on Page 46.



20104

FITS: MERCRUISER, O.M.C.

12 Volt, 70 AMP

Ignition protection screens Internal regulator Negative ground 2-wire plug

2-inch mounting foot Single groove pulley included

For high-amp (12 Volt, 105 Amp) replacement alternator, see 60122 on Page 46.



20500

Universal-mount alternator 12 Volt. 70 AMP

Self exciting Ignition protection screens 1-wire connection

Single groove pulley included

1-inch mounting foot Adaptors available for 2" mounting configurations



20800 (NEW) FITS: MERCRUISER

4.3L - 8.2L 1998-Up

12 Volt, 70 AMP

Internal Fan

65-mm multi-groove serpentine pulley included



20810 (NEW) FITS: MERCRUISER 3.0L

1999-UP

12 Volt, 70 AMP

Internal Fan

Single groove pulley included



20815 (NEW) FITS: MERCRUISER 4.3L-6.2L

12 Volt. 70 AMP

Internal Fan

50-mm multi-groove serpentine pulley included



20820 (NEW)

FITS: INDMAR. PLEASURECRAFT.

CRUSADER, AND OTHERS 12 Volt, 70 AMP

Internal Fan

2-inch mounting foot 65-mm multi-groove serpentine pulley included







20821 (NEW)
FITS: PLEASURECRAFT &
MARINE POWER
12 Volt, 70 AMP
Internal Fan
2-inch mounting foot
50-mm serpentine
pulley included



20822 (NEW)
FITS: PLEASURECRAFT
12 Volt, 70 AMP
Internal Fan
2-inch mounting foot
65-mm serpentine
pulley included



20825 (NEW)
FITS: INDMAR,
PLEASURECRAFT,
CRUSADER, AND OTHERS
12 Volt, 70 AMP
Internal Fan
2-inch mounting foot
Single groove
pulley included



20826 (NEW)
HIGH AMP
FITS: PLEASURECRAFT
12 Volt, 95 AMP
Internal Fan
2-inch mounting foot
65-mm serpentine
pulley included



20827 (NEW) HIGH AMP

FITS: INDMAR
12 Volt, 95 AMP
Internal Fan
2-inch mounting foot
65-mm serpentine
pulley included



20828 (NEW)
HIGH AMP
FITS: MARINE POWER
12 Volt, 95 AMP
Internal Fan
2-inch mounting foot
Double pulley included



20830 (NEW)
FITS: MARINE POWER
12 Volt, 70 AMP
Internal Fan
2-inch mounting foot
Double pulley included
Includes wire/plug
connector



20840 (NEW)
FITS: 2.5L
MERCURY OUTBOARD
12 Volt, 50 AMP
Internal Fan
2-inch mounting foot
Multi-groove
serpentine
pulley included
Includes wire/plug
connector







20850 (NEW) FITS: 1.5L & 3.0L **MERCURY OUTBOARD** 12 Volt, 50 AMP Internal Fan **Multi-groove serpentine** pulley included Includes wire/plug

> *Will not replace Mercury # 821663A-1

connector



20860 (NEW) **FITS: All Mercury Verado Outboards** 12 Volt, 70 AMP Internal Fan Multi-groove serpentine pulley included



40112

FITS: CHRYSLER MARINE 12 Volt, 70 AMP Internal regulator Negative ground Single groove pulley included

VR405

Replacement Regulator for Prestolite alternator Not required for ARCO replacement alternator.





40115 (NEW) FITS: CHRIS CRAFT 12 Volt, 55 AMP Negative ground 1-inch mounting foot Single groove pulley included



VR407 Replacement Regulator for Prestolite alternator

Not required for ARCO replacement alternator.

40147 (NEW)

FITS: PLEASURECRAFT, WAUKESHA 12 Volt, 55 AMP Negative ground 2-inch mounting foot Single groove pulley included

VR406

Replacement Regulator for Prestolite alternator Not required for ARCO

replacement alternator.





40152

FITS: O.M.C. 12 Volt, 70 AMP Internal regulator Negative ground Single groove pulley included

VR404

Replacement Regulator for Prestolite alternator Not required for ARCO replacement alternator.





⋖ style unit





60050 (NEW)
MANDO
FITS: LATE MODEL
MERCRUISER
12 Volt, 55 AMP
Internal regulator
2-inch mounting foot

M883
Replacement Regulator

Single groove

pulley included

65050 (NEW) 75 Amp high-output also available



60055 (NEW)
MANDO
FITS: LATE MODEL
MERCRUISER
12 Volt, 55 AMP
Internal regulator
2-inch mounting foot
Multi-groove serpentine

M883

pulley included

Replacement Regulator

65055 (NEW) 75 Amp high-output also available

60060 (NEW)
MANDO
FITS: LATE MODEL
MERCRUISER
12 Volt, 65 AMP
Internal Regulator
2-inch mounting foot
Multi-groove serpentine
pulley included

65055 (NEW) 75 Amp high-output also available



60065 (NEW) MANDO FITS: LATE MODEL MERCRUISER 12 Volt, 65 AMP Internal regulator

2-inch mounting foot Single groove pulley included

65050 (NEW) 75 Amp high-output also available



60070 (NEW)
MANDO
FITS: LATE MODEL
VOLVO PENTA
12 Volt, 65 AMP
Internal Regulator
2-inch mounting foot
Single groove
pulley included



60071 (NEW)
MANDO
FITS: LATE MODEL
VOLVO PENTA
12 Volt, 65 AMP
Internal Regulator
2-inch mounting foot
Multi-groove serpentine
pulley included



60072 (NEW)
MANDO
FITS: LATE MODEL
VOLVO PENTA
12 Volt, 65 AMP
Multi-groove
serpentine
pulley included









60073 (NEW) FITS: LATE MODEL VOLVO PENTA 12 Volt, 75 AMP 50-mm multi-groove serpentine pulley included





60074 (NEW) **VOLVO PENTA FITS: LATE MODEL VOLVO PENTA** 12 Volt. 75 AMP 2-inch mounting foot Single groove pulley included



60075 (NEW)

UNIVERSAL ALTERNATOR W/ MANY APPLICATIONS FITS: YAMAHA, MARINE POWER, CRUSADER

Replaces Motorola 12 Volt, 55 AMP Internal regulator Includes: Tachometer terminal, indicator light terminal, remote battery sensing terminal, excite terminal 1-inch mounting foot with 3-ear adjustment Single groove pulley included



Replacement Regulator

60076 (NEW) **VOLVO PENTA** FITS: LATE MODEL VOLVO PENTA 12 Volt. 75 AMP 63-mm multi-groove serpentine pulley included





60104 (NEW) REPLACES: MOTOROLA 12 Volt, 55 AMP Internal regulator Negative ground 1-inch mounting foot Single groove pulley included



Replaces this **⋖** style unit



60108 (NEW) FITS: UNIVERSAL AND OTHERS 12 Volt, 55 AMP

Internal regulator Negative ground 2-inch mounting foot Single groove pulley included

65108 (NEW) 75 Amp high-output also available



60125 (NEW)

FITS: O.M.C. COBRA Replaces: Prestolite/Motorola 12 Volt, 55 AMP Internal regulator

Negative ground 2-inch mounting foot Single groove pulley included



Replaces this . **d** style unit





12 VOLT, 105 AMP - HIGH AMP ALTERNATORS

Today's increased electrical loads and more sophisticated electronics demand improved performance, greater reliability, and higher output from the electrical generating system. Also is creative engineering offers a **105 AMP** series as the means to a totally efficient electrical system. For comparison, just look at the Performance Chart at the bottom of the page!

60121 (NEW) HIGH-AMP 12 Volt, 105 AMP

Self exciting integral regulator Isolated ground Includes: Tachometer terminal. External voltage adjustment.

1-inch mounting foot, 1/2" hole Single groove pulley included



60122 (NEW) HIGH-AMP 12 Volt, 105 AMP

Self exciting integral regulator. Isolated ground. Includes: Tachometer terminal. External voltage adjustment.

2-inch mounting foot, 3/8" hole

Single groove pulley included



60124 (NEW) HIGH-AMP FITS: VOLVO PENTA 12 VOIT, 105 AMP

Self exciting integral regulator Isolated ground Includes: Tachometer terminal External voltage adjustment

2-inch mounting foot, 10mm hole

Single groove pulley included

For applications WITH warning panel connection, use 60126



For applications WITHOUT warning panel connection, use 60124

60498 (NEW) HIGH-AMP FITS: CATERPILLAR DIESEL 6T1396 12 Volt, 105 AMP Integral regulator

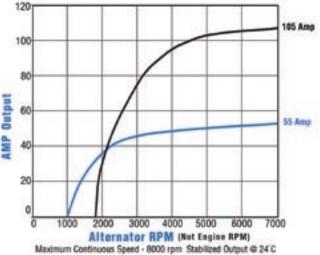
Single groove

pulley included

Isolated ground
Heavy duty bearings
1-inch mounting foot
PULLEY NOT INCLUDED



COMPARE THE POWER



ARCO STARTING & CHARGING SPECIALISTS © PAGE





60195 (NEW) Prestolite/Motorola **FITS: CUMMINS DIESEL** 12 Volt, 65 AMP Integral regulator 2-inch mounting foot **PULLEY NOT INCLUDED Poly-V** pulley available separately

To be discontinued when present stock is exhausted



84135

HITACHI MARINE **FITS: YANMAR DIESEL** 12 Volt, 35 AMP Internal regulator Single groove pulley included



60198 (NEW)

FITS: CATERPILLAR DIESEL 6T1396

12 Volt, 51 AMP

Integral Regulator Isolated ground Heavy duty bearings

1-inch mounting foot **PULLEY NOT INCLUDED**

For high-amp (12 Volt, 105 Amp) replacement alternator see 60498 on Page 46.



84150

HITACHI MARINE FITS: YANMAR DIESEL 12 Volt, 50 AMP Internal regulator Single groove pulley included

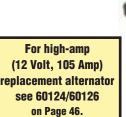


80108 (NEW)

FITS: LATE MODEL VOLVO PENTA

DIESEL ENGINES 12 Volt, 55 AMP Internal regulator

2-inch mounting foot **PULLEY NOT INCLUDED**





86050

FITS: WESTERBEKE DIESEL ENGINES 12 Volt, 50 AMP Internal regulator

Single groove pulley included





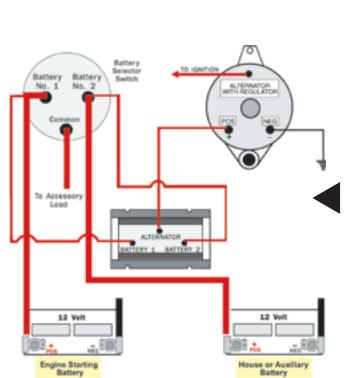
12 Volt

House or Auxiliary Battery

TYPICAL BATTERY ISOLATOR CIRCUITS

The most common battery isolator is the one alternator, two battery unit. It doesn't matter how many batteries are connected in parallel to the battery 1 or 2 terminal.

Remember, when batteries are connected in parallel, they become one large battery.

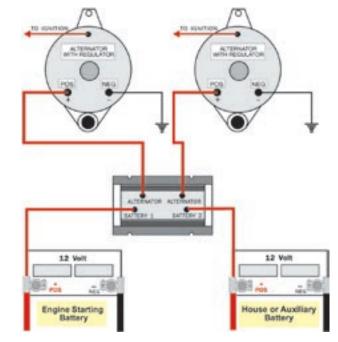


The one alternator, two battery isolator with a battery selector switch will allow both banks of batteries to be charged regardless of what position the battery selector switch is in.

TO IGNITION

12 Vot

Engine Starting



The two alternator, two battery isolator allows both alternators to charge both batteries.

In the event of one alternator failure, both batteries would be maintained by the working alternator.





INBOARD/OUTBOARD BATTERY ISOLATORS

Battery isolators are solid-state devices which allow electrical current to flow in one direction only, thus permitting the alternator to be connected directly to two batteries without fear of one higher charged battery discharging into the lower charged battery. Both batteries are always being charged automatically, in proportion, to their needs, whenever the engine is running. When battery isolators are used in conjunction with selector switches, it is not necessary to change the switch position to provide for charging of both batteries. Isolators provide proportioning of the output or charging current on the alternator to the batteries as required, regardless of switch position. Rated for use with 10 to 350 amp alternators on 12, 24, or 32 volt negative ground systems.



Battery Isolators cannot be used on 12 volt charging systems with 24 volt trolling motors or newer outboard engines with rectifier-regulator charging systems.

BI-0702

1 Alternator, 2 Batteries 70 AMP max



BI-1202-3A

1 Alternator. 2 Batteries 120 AMP max Includes: Exciter Terminal



BI-0702-4

1 Alternator, 2 Batteries 70 AMP max Includes: Regulator sensing terminal



BI-1203

1 Alternator, 3 Batteries 120 AMP max



BI-0703

1 Alternator, 3 Batteries 70 AMP max



BI-1203-3A

1 Alternator. 3 Batteries 120 AMP max Includes Exciter Terminal



BI-1202

1 Alternator, 2 Batteries 120 AMP max



BI-1602

1 Alternator. 2 Batteries 160 AMP max





INBOARD/OUTBOARD BATTERY ISOLATORS



Battery Isolators cannot be used on 12 volt charging systems with 24 volt trolling motors or newer outboard engines with rectifier-regulator charging systems.

BI-1603

1 Alternator. 3 Batteries 160 AMP max



BI-2702

2 Alternators. 2 Batteries 70 AMP max



BI-2703

2 Alternators, 3 Batteries 70 AMP max



BI-2703-4

2 Alternators, 3 Batteries 70 AMP max Includes: Regulator sensing terminal



BI-3202

2 Alternators. 2 Batteries 120 AMP max



BI-3203

2 Alternators, 3 Batteries 120 AMP max



Need a technical question answered?

Call 1-800-722-2720

Monday - Thursday 7:00 a.m - 5:30 p.m. central time.



SW054

FITS: MERCRUISER, MERCURY Isolated base 12 Volt



SW058

STANDARD-DUTY FITS: MERCRUISER, MERCURY

Isolated base 12 Volt



SW058HD

HEAVY-DUTY FITS: MERCRUISER, MERCURY





SW058 OEM STYLE COIL & CONTACT ASSEMBLY



ÆC SW058HD **COIL & CONTACT ASSEMBLY**



SW064

FITS: MERCRUISER, MERCURY Isolated base 12 Volt White housing



SW081

FITS: MANY APPLICATIONS; O.M.C Isolated base

12 Volt



SW097

FITS: MERCRUISER, MERCURY Isolated base

12 Volt

White housing



SW099

FITS: MERCRUISER. MERCURY & YAMAHA 4 STROKE

Isolated base 12 Volt



SW109

FITS: MERCURY/FORCE Isolated base

12 Volt





51



SW125

HEAVY-DUTY
FITS: FORD
70125, 70200,
70201, 70212, 70216
gear reduction starters
on late model 5.0L, 5.8L



SW225

HEAVY-DUTY FITS: VOLVO PENTA, VALEO gear reduction



SW268

FITS: O.M.C. Grounded base 12 Volt



SW275

FITS: MERCURY Isolated base 12 Volt



SW288

FITS: 0.M.C. Isolated base 12 Volt



SW295

FITS: CHRYSLER Isolated base 12 Volt



SW340

FITS: 0.M.C. Isolated base 12 Volt



SW357

HEAVY-DUTY
FITS: STARTER PART
NUMBER 5357.
Used on Evinrude G2

engines.



SW394

FITS: MERCRUISER & O.M.C.

Grounded base 12 Volt



If you have questions about any of our products, please don't hesitate to call! Toll Free 1-800-722-2720 or 1-850-455-5476.

ARCO STARTING & CHARGING SPECIALISTS © PAGE





SW450

FITS: (30460, 30470 4 terminals 12 Volt



SW580

FITS O.M.C. 1993-UP, 9.9 -15 HP Outboard Isolated base 12 Volt



SW456

FITS: 14 MT

30456, 30457 4 Post, 3-Bolt Mount



SW590

Starter Solenoid **FITS: LATE MODEL EVINRUDE E-TEC ENGINES**

Isolated base



SW463

HEAVY-DUTY FITS: O.E. DELCO PG 260, MERCRUISER, OMC, VOLVO PENTA This solenoid will not fit **30460, 30470!**



SW595

FITS EVINRUDE E-TEC 2010-UP 15 HP-300 HP



SW622

FITS O.M.C. Isolated base 12 Volt



SW565 FITS: VOLVO PENTA

Isolated base 12 Volt



SW661 FITS: MERCURY

Isolated base 12 Volt





SW730

FITS: O.M.C. Grounded base 12 Volt



SW774

FITS: CHRYSLER, O.M.C. Replaces Chrysler 177917 Grounded base 12 Volt



SW814

FITS: PARIS RHONE D11E167T, ETC. 12 Volt



To be discontinued when present stock is exhausted.

SW865

HEAVY-DUTY 12 VOLT, 1000 AMP Parallel/solenoid



24 VOLT, 1000 AMP



SW924

FITS: FORCE OUTBOARDS Choke solenoid



Plunger to fit SW924



SW925

FITS: MERCURY OUTBOARDS Choke solenoid



SW926

FITS: 75 HP-V200 HP **MERCURY OUTBOARDS**

Choke solenoid



SW941

FITS: YAMAHA Solenoid



SW945

FITS: YAMAHA 2 & 4 STROKE, **MERCURY 4 STROKE** Starter solenoid



SW950

FITS: YAMAHA Solenoid



SW975

FITS: DELCO Standard solenoid 12 Volt



SW981

FITS: MERCURY Grounded base 12 Volt





OUTBOARD RECTIFIERS & REPLACEMENT RELAYS

AR103 FITS: O.M.C. 3-lead Rectifier



AR104 FITS: O.M.C. 4-lead Rectifier



AR351 HEAVY-DUTY FITS: MERCURY 3-post Rectifier



R012 Continuous duty relay; **12 Volt,** 85 Amp

R024 24 Volt, 85 Amp

R036 32-36 Volt, 85 Amp

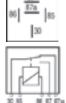


R038

S.P.D.T. normally closed, continuous duty relay used w/many winch motors Isolated ground, 12 Volt, 85 Amp



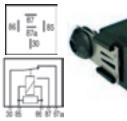
R040 FITS: VOLVO PENTA 12 Volt, 30 Amp



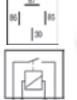


R151

FITS: MERCURY & **MARINER OUTBOARDS** 12 Volt, 30 Amp

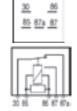






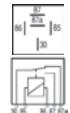


R202 FITS: MERCRUISER 12 Volt, 30 Amp



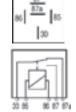


R211 FITS: MERCURY 12 Volt, 30 Amp



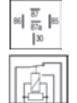


R473 FITS: O.M.C. 12 Volt, 30 Amp





R509 FITS: MERCURY. **MARINER & FORCE. OUTBOARDS** 12 Volt, 30 Amp

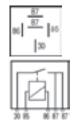




REPLACEMENT RELAYS



R670 FITS: VOLVO PENTA 12 Volt. 30 Amp





R751

FITS: MERCRUISER & MERCURY VERADO OUTBOARDS

12 Volt, 30 Amp



87 87a | 85

30



R767

EVINRUDE E-TEC O/B TILT/TRIM RELAY REPLACES EVINRUDE 0586767 **2011-2012 E-TEC** 25, 30, 40, 50, 60, 75, 90, 115, 130, 150, 175, 200, 225, 250, 300 **2008-2010 E-TEC** 30, 40, 50, 60, 75, 90, 115, 130, 150, 175, 200, 225, 250, 300

2007 E-TEC 40, 50, 60, 75, 90, 115, 150, 175, 200, 225, 250

2006 E-TEC 40, 50, 60, 75, 90, 200, 225, 250 **2005 E-TEC** 40, 50, 75, 90, 200, 225, 250

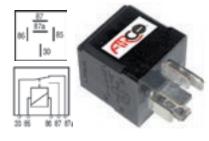
2004 E-TEC 40, 50, 75, 90

767 0, 50, 0, 175, 90, 50

R809

VOLVO PENTA REPLACES: VOLVO PENTA 3858081, 3858809

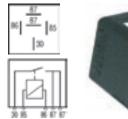
1998 SX-M-MAC, MDA, MLT), 3.0GLP-D, 4.3GL-E, 4.3GL-EF, 4.3GXi-F, 4.3GXi-FF, 4.30Si-F, 4.30Si-FF,



5.0GL-F, 5.0GL-FF, 5.0GXi-F, 5.0GXi-FF, 5.0Si-FF, 5.7Gi-F/FF, 5.7GXi-G/GF, 5.7OSi-E/EF, 5.7OXi-E/EF, 5.7GXI-F, 5.7GXI-G, 8.1Gi-G/GF, 8.1GXI-F/FF, 8.1OSi-C/CF, 8.1GII-G, 8.1GXII-F, DPH-A, DPH-B, DPR-A, DPH-B, EF drives, SX-M TSKs

1998-2005 SX-M, DP-SM, (WT drives, PJX-C, PJX-S SX-M, -MA-CLT, -MDA, -MDB, -MHP, -MTD, DP-E, DP-S, -S1, -S2, DP-SM, -SM) XDP-B, O.M.C. COBRAS WITH TELEFLEX PUMPS

R832 FITS: VOLVO PENTA 12 Volt, 30 Amp





R950

YAMAHA O/B TILT/TRIM RELAY REPLACES: YAMAHA 6E5 81950-01

1991 & Up 115 HP, **1991 - 2004** 130 HP,

1991 & Up 150 HP, **1991 - 2000** 175 HP, **1991 - 1999** 200 HP

1991 - 1999 200 HP **SUZUKI** 38410-94540



R951

YAMAHA O/B TILT/TRIM RELAY REPLACES: YAMAHA 6E5 8195A-01

1991 & Up 115 HP, **1991 - 2004** 130 HP,

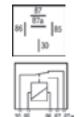
1991 & Up 150 HP, **1991 - 2000** 175 HP,

1991 - 1999 200 HP



R952 FITS: VOLVO PENTA

12 Volt, 30 Amp











MISCELLANEOUS ITEMS

DV456

FITS: DELCO 14MT. (30456) Starters w/CW Rotation 9-tooth gear



DV457

FITS: DELCO 14MT, (30457 Starters w/CCW Rotation 9-tooth gear

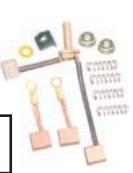
BK900

Replacement brushes **FITS: AMERICAN-MADE** permanent magnet outboard starters



/ WARNING

Cancer and Reproductive Harm www.P65Warnings.ca.gov



M525

Reservoir kit

FITS: (4275) **Replaces: MERCRUISER** Includes: Reservoir, cap, **O-rings, mounting screw**



M531

Reservoir kit

FITS: (47C) 6227 Replaces: Volvo

Includes: Reservoir, cap, 0-rings



M532

REPLACES MERCRUISER 883166A2

M533

REPLACES VOLVO-PENTA 3858077

New style reservoir kit, heavy duty 4-screw mount. Improved design, will only fit late model **OILDYNE** pumps equipped with 4 mounting ears.

Includes: Reservoir, screws, cap, 0-rings.



MBK450

Mounting bolt kit for gear reduction starters FITS: (30470 starter,

2 long mounting bolts, 3/8"-16 N.C. threads This kit will also fit all **DELCO** gear

reduction starters w/staggered bolt mounting pattern



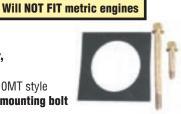
Required when replacing a 10MT Starter with a GearReduction Starter. Will NOT FIT metric engines or 10MT starters.

MBK460

Mounting bolt kit

FITS: (30460 starter,

3/8"-16 N.C. threads This kit will also fit DELCO 10MT style starters w/1 short & 1 long mounting bolt



SR107

FROM BRUSH LOADING TOOL

Makes brush loading as simple as 1-2-3 Perfect tool for loading outboard starter brushes. Fits most all size and shape caps.



Electrical Technical Manual

This easy-to-understand technical reference is written by Mechanics for Mechanics. Procedures are explained in basic terms with illustrated examples.

