



GEAR

for Your Ride

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Starter** Less space.
Same great power. pg 5



Over 30 Years and Still Proudly Made in the U.S.A. 

Quick Reference Guide

Quick Reference Guide

MAKE / MODEL	PART #	COLOR	OPTIONS	INLET REQ.	SUGGESTED	OUTLET	LENGTH	WEIGHT
CHEVROLET								
Big Block								
Standard Electric	WP100	All	HD	Yes	WP1175	WN0022D	6.78	5.8
Reservoir Electric	WP200	All	HD	Yes		WN0912	6.78	8.2
High Flow Electric	WP300	All	PORTED	Included	Welded 1.75"	WN0022D	7.28	7.4
Mechanical Vee Belt	WP400	Blk, Chrm, Pol	PORTED	Included	Welded 1.75"	WN0022D	5.75	5.4
Mechanical Serpentine Belt	WPR400	Blk, Chrm, Pol	PORTED	Included	Welded 1.75"	WN0022D	5.75	5.5
Small Block								
Standard Electric	WP101	All	HD	Yes	WP1175	WN0022D	6.78	5.5
Reservoir Electric	WP201	All	HD	Yes		WN0912	6.78	8.5
High Flow Electric	WP301	All	PORTED	Included	Welded 1.75"	WN0022D	7.28	7.0
Mechanical Vee Belt	WP401	Blk, Chrm, Pol	PORTED	Included	Welded 1.75"	WN0022D	5.66	5.4
Mechanical Serpentine Belt	WPR401	Blk, Chrm, Pol	PORTED	Included	Welded 1.75"	WN0022D	5.80	5.5
Mechanical Vee Belt	WP402	Machined		Included	Welded 1.75"		5.80	6.8
Mechanical Serpentine Belt	WPR402	Machined		Included	Welded 1.75"		5.80	6.8
GENERAL MOTORS								
LT-1 / LT-4 (Standard Electric)	WP118	Blk, Chrm	HD				3.0 / HD 3.5	3.6
LS-X Various (Standard Electric)	WP119	All	HD	Yes	WP1150	Included	6.80	7.0
LS-X Various (High Flow Elec Street)	WP319	All		Yes	WN0019	Included	7.80	14.9
LS-X 2010 Camaro (High Flow Elec Street)	WP329	Clear Ano		Yes	WN0019	Included	8.15	16.6
LS-3 Corvette (2010 - 2013)	WP330	Clear Ano		Yes	WN0019	Included	7.65	16.3
LS-X Various (Mechanical Serpen Belt)	WP419	Clear Ano		Yes	WN0019	Included	5.45	11.6
DRCE (Standard Electric)	WP110	All	HD	Yes	WP1175		6.78	5.8
High Flow Electric	WP310	Blk, Chrm, Pol		Included	Welded 1.75"		7.28	7.4
GM3800 (Standard Electric)	WP140	All	HD				3.50	4.1
BUICK / OLDSMOBILE / PONTIAC								
BUICK (Small Block) Std Electric	WP125	All	HD	Yes	WP1150		5.78	7.0
BUICK (400, 435, 455) Std Elec	WP126	All	HD				4.00	5.7
OLDSMOBILE (Standard Electric)	WP135	All	HD	Yes	WP2175		6.10	5.8
PONTIAC (Standard Electric)	WP103	All	HD				3.78	5.9
FORD								
Big Block (429, 460) Std Elec	WP108	All	HD	Yes	WP1175	WN0013	6.10	5.8
Reservoir Electric	WP208	All	HD	Yes		WN0812	6.10	8.2
High Flow Electric	WP308	All		Yes	WN0033	WN0013	6.60	7.4
FE (352, 390, 406, 427, 428) Std Elec	WP170	All	HD	Yes	WP2175		7.43	6.6
Small Block (W,C,M) Std Elec	WP111	All	HD	Yes	WP2175	WN0023	6.30	5.6
High Flow Electric	WP311	All		Included		WN0023	5.55	8.6
High Flow Elec Street	WP312	All		Included		WN0023	6.30	10.2
Mechanical Vee Belt	WP411	Clear Ano		Included		WN0023	6.25	8.0
Mechanical Serpen Belt	WPR411	Clear Ano		Included		WN0023	6.25	8.0
Small Block 94-95 (Short) Std Elec	WP173	All	HD	Yes	WP2175		6.10	5.6
High Flow Electric	WP373	All		Included			4.51	5.3
High Flow Elec Street	WP374	All		Included			4.75	6.9
5.0 Coyote	WP341	Blk					5.20	7.3
High Flow Elec Street	WP342	Blk					5.54	9.1
Specialty Blown Apps.	WP343	Blk					5.54	9.0
5.0 Cobra Jet	WP340	Blk					5.54	9.1

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FORD continued								
Modular (High Flow Electric)	WP345	Blk, Chrm					3.50	5.0
High Flow Elec Street	WP346	Blk					3.75	6.9
Elec Specialty Blown Apps.	WP347	Blk					3.75	6.7
Oversized pulley	WP348	Blk					3.75	6.8
H. Flow Street Super Duty	WP349	Blk					5.00	7.1
MOPAR								
Big Block B, RB, Hemi (Std Elec)	WP106	All	HD	Yes	WP1175	WN0029	6.80	7.1
Reservoir Electric	WP206	All	HD	Yes		WP12012	6.80	9.5
High Flow Electric	WP306	All		Yes	WN0033	WN0029	7.25	8.8
Reverse High Flow Electric	WP307	All		Yes	WN0033	WP12012 x2	7.25	8.1
Electric Insert (Stk Housing)	WP105	Blk, Chrm	HD			WN0029	3.50	3.6
Small Block (Standard Electric)	WP114	All	HD	Yes	WP11175	WN0029/30	6.10	5.7
Late Model SB Hemi (High Flow Elec)	WP314	All		Yes	WN0033		6.60	7.2
REMOTE MOUNT								
Remote Bulkhead (Std Elec)	WP116	All	HD	Yes	WP1175	WP12012 x2	5.00	5.4
Remote Bulkhead (High Flow Elec)	WP316	All		Yes	WN0033	WP1202 x2	5.50	6.3
Remote Inline (Mini Electric)	WP136	Blk		Yes	WP12012	WP12012	7.25	5.2
Remote Inline (Mini Elec Dual Out)	WP137	Blk		Yes	WP12012	WP12012 x2	7.25	5.3
Remote Inline (High Flow Elec Sngl Out)	WP336	Blk, Chrm		Yes	WN0033	WN0033	5.20	6.2
Remote Inline (High Flow Elec Dual Out)	WP337	Blk, Chrm		Yes	WN0033	WP16016/ WP16E16	5.20	6.2
Radiator Mount (High Flow Elec Sngl Out)	WP361	Blk, Chrm		Supplied	Radiator Mount	WN0033	5.20	5.9
Radiator Mount (High Flow Elec Dual Out)	WP362	Blk, Chrm		Supplied	Radiator Mount	WP16016/ WP16E16	5.20	5.9
Remote (Mechanical Vee Belt)	WP430	Blk		Yes	WN0033	WP12012 x2	5.55	3.5
Remote (Mechanical Vee Belt)	WP431	Blk		Yes	WN0033		6.30	
Remote (Mechanical Serpen Belt)	WP432	Blk		Yes	WN0033		6.30	
HONDA / ACURA								
B Series 1.6-1.7 & Type R 1.8 (Elec)	WPK50022			Included		Included		8.6
B Series 1.8-2.1 (Electric)	WPK50019			Included		Included		8.6
H Series 2.2-2.3 (Electric)	WPK50026			Included		Included		8.6
MAZDA								
Rotary (Electric Dual Inlet)	WP90	Pol		Yes	WP34012 x2	WP1125		
Rotary (Electric Single Inlet)	WP91	Pol			WP16016	WP16016		
NISSAN								
SR20 2.0 (Standard Electric)	WPK510							8.6
TOYOTA								
93-98 Supra Turbo (Std Elec)	WP520						4.25	5.2

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TS100

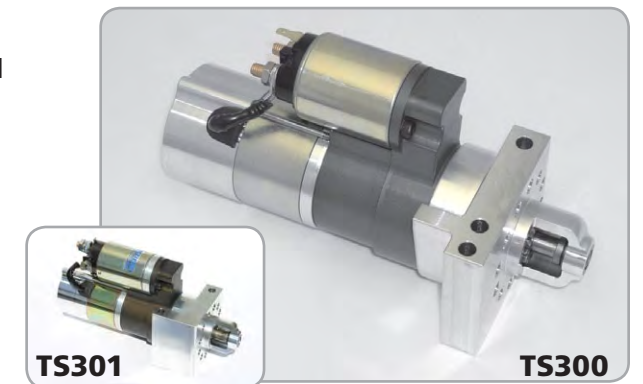
"Far superior to the common racing designs". That was the word from our engineering staff. A stronger drive and more powerful 2.2 KW motor provide superior performance. Our goal is to provide trouble free parts for your engine or vehicle. We recommend the TS100 series starters for engines smaller than 420 CID and up to 14.5:1 compression.

- TS100 - Chevy for 168 tooth flexplate - Std. drive**
- TS101 - Chevy for 153 tooth flexplate - Std. drive**
- TS119 - LS for 168 tooth flexplate.**

**Note: TS119 Not built within factory package size.*

Inline design - straightforward starting.

All of the best components have been hand selected and assembled into one package. A powerful 1.9 KW permanent magnet motor is just the beginning. Hand crafted drive components provide stable power transfer through a unique planetary gear reduction system. This delivers impressive rotational speed to a 9310 hardened gear supported by a billet nose cone. This starter is recommended for engines up to 700 CID with straight sided oil pan configuration. Note: This starter will not clear oil pans which "kick out" on the passenger side.



TS301

TS300

- TS300 - Chevy inline for 168 tooth flexplate - Std. straight bolt pattern - Super Duty drive**
- TS301 - Chevy inline for 168 tooth flexplate - staggered "400 style" bolt pattern - Super Duty drive**



TS400

The engine builder's choice.

The recent trend among engine builders has been to increase displacement. Engines exceeding 540 CI, 632 or even larger are the norm. If this fits your description then we've got the prescription. Our TS400 design features a powerful 2.2 KW motor and a drive assembly specifically designed for extreme starting conditions. Virtually all of the power transmitting components have been scrutinized to bring you reliability unmatched by any other manufacturer.

Note: For a starter compatible with 24 volt please add "24" to the part number (ex TS40024).

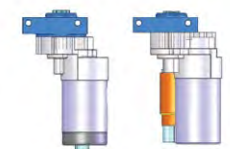
- TS400 - Chevy offset for 168 tooth flexplate - Super Duty drive**
- TS400DS - Chevy offset for 168 tooth flexplate - Super Duty drive - Driver's side mount**
- TS400DP - Chevy offset for 168 tooth or 153 tooth flexplate - Super Duty drive**



TS500

Less space. Same great power. Our TS500 model is the next evolution in the True Start line. The knowledge we have gained from the 400 series has allowed us to redesign with weight and space savings in mind. An end on view will show that this design will provide more header and frame clearance for applications where space is at a premium.

Note: For a starter compatible with 24 volt please add "24" to the part number (ex TS50024).



TS500 vs. TS400

- TS500 - Chevy offset for 168 tooth flexplate - Slim Line - Super Duty drive**
- TST500 - Chevy offset for 139 tooth flexplate - Slim Line - Super Duty drive**

Ten Pitch

TST400



Fits big block and small block Chevy engines. Requires that you use this in conjunction with part # FPT300 flexplate (139 tooth "ten pitch"). **It is mandatory that the two "ten pitch" components be used together.** The starter and flexplate combination will install exactly like a normal 12 pitch (standard Chevy) combination but will provide a deeper and stronger gear set.

TST400 - Chevy for 139 tooth 10 pitch flexplate - Super Duty drive
 Note: For a starter compatible with 24 volt please add "24" to the part number (ex TST40024).

TS408



Boasting 2.2 Kilowatts of power and proprietary drive design you can rest assured your Ford engine will turn over faster than ever and will live to see the next round. The ingenious design of the TS409 allows you to achieve proper gear clearance. These starters also feature excellent gear support.

Close-up of TS409 adjustable mount only.



TS408 - Ford for 164 tooth flexplate - Traditional mount
TS409 - Ford for 164 tooth flexplate - Adjustable mount to achieve precise gear mesh
 Note: For a starter compatible with 24 volt please add "24" to the part number (ex TST40824).

Ten Pitch

TST409



Apply the latest technology to your big cubic inch Ford engine with our TST409 starter combined with a "Ten Pitch" FPT308 True Billet flexplate. The TST409 features our eccentric drive adjustment and a stronger gear profile to solve the most difficult starting problems.

Note: This starter must be mated to a ten pitch ring gear or flex plate.

TST409 - Ford for 140 tooth 10 pitch flexplate - Super Duty drive
 Note: For a starter compatible with 24 volt please add "24" to the part number (ex TST40924).



TS106

For your BIG Mopar the TS106 gives you the most cranking speed and the biggest drive components available. Extreme cubic inches and extreme compression are no problem for this beast.

TS106 - Mopar for 130 tooth flexplate or converter gear - Std. drive



TS306

The TS306 Mopar starter has been designed to be a solid cranking solution on everything from a stock '68 Hemi Cuda to a Drag-Pak Challenger. The driver's side mounted slim design has an adjustable nose support that enables it to work with 727, 904 or manual transmission applications. It will fit BRB HEMI and small blocks.

Note: This WILL NOT fit '05-up GEN 3 HEMI passenger side mount applications.
 Note: For a starter compatible with 24 volt please add "24" to the part number (ex TS30624).



TS406H

Developed for Pro Mod. It features a face mount for mid plate attachment and a clever offset bushing set that allows you to properly adjust radial clearance between the starter gear and the flexplate.

Note: For a starter compatible with 24 volt please add "24" to the part number (ex TS406H24).

TS406H - Mopar for 168 tooth 12 pitch Chevy style flexplate - Super Duty drive

TST406H - Mopar for 139 tooth 10 pitch 14.14 diameter flexplate

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TS586

Designed with the rigors of off-road racing in mind. Our superior drive and motor combination will bolt into most bell housings that accept a VW / Porsche style starter. On this model, the back cap of the motor has additional drilled and tapped holes. These allow you to add support for off road racing activities where vibration and jarring are of concern.

TS586 - Volkswagen / Porsche style bell housing mount slim line - Super Duty drive

Relay Kit Fits most starters and chassis wiring. The kit makes it easy to guarantee 50 plus amps to the solenoid for trouble free starts. The key is the correct solenoid switch and the Meziere 10 gauge "super fine strand" wire.



WIK400

Super-fine stranded cable with a tin coating moves the voltage in the most efficient manner. Weight conscious racers can rest assured this is the right solution.

Cable Type	Lbs./Ft.	5' Part #	20' Part #	100' Part #
1/0 Blk	.436	PW5A0S	PW0A0S	PW1A0S
1/0 Red	.436	PW5A0R	PW0A0R	PW1A0R
4 Gauge Red	.177	PW504R	PW004R	PW104R
10 Gauge Red	.045	PW510R	PW010R	PW110R



Starter main supply cable

Changeovers and Upgrades

Part #	Description
TS450	Chevy 400 series 12 pitch to 10 pitch
TS451	Chevy 400 series 10 pitch to 12 pitch
SS276	12 to 24 solenoid changeover kit



TS450

Shim Kits

Part #	Description
SS224	.030 thick shims, set of 2 for Chevy
SS078	.060 thick shim for Chevy
SS044	.160 thick shim for Chevy
SS017	.030 thick shim for Chevy



Starter Drives

Part #	Description
SS139	400 series replacement drive 12 pitch 11 tooth
SS140	400 series replacement drive 10 pitch 9 tooth



Solenoids

Part #	Description
SS037	Replacement solenoid 400 series starter 12 / 16 volt
SS193	Replacement solenoid 400 series starter 24 volt



Bearings

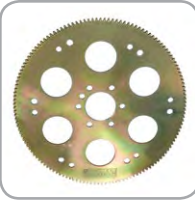
Part #	Description
SS116	Nose bearing 400 series starter
SS117	Intermediate bearing 400 series starter
SS115	Rear support bearing 400 series starter



Bolts

Part #	Description
SS043	Starter install kit, two 3/8" bolts 2 washers .030 shim





Meziere True Billet Flexplates are clearly the superior choice for quality and precision. Machined to exacting tolerances from 4340 round bar, our proprietary manufacturing process ensures the strongest gear tooth, least runout and the best longevity on the market. All of our flexplates are certified to SFI spec 29.2

	FP300 (Fig. 1)	FP300A (Fig. 1)	FP300B (Fig. 1)	FPT300 Ten Pitch (Fig. 1)
Application	Chevy - Large	Chevy - Large	Chevy - Large	Chevy - Large
Dimension A	14.14	14.14	14.14	14.14
Dimension B	.450	.450	.450	.450
Dimension C	.170	.170	.170	.170
Dimension D	2.49	2.49	2.49	2.49
Tooth Count	168	168	168	139
Pitch	12	12	12	10
Total Weight	6.3 lbs.	6.4 lbs.	6.4 lbs.	6.3 lbs.
Counter Bal. Wt.	Neutral	454	502	Neutral
Converter Pattern	3 on 10.75 and 3 on 11.5	3 on 10.75 and 3 on 11.5	3 on 10.75 and 3 on 11.5	3 on 10.75 and 3 on 11.5
Suggested Bolt Kit	FPH437625	FPH437625	FPH437625	FPH437625

	FP301 (Fig. 1)	FPS006 (Fig. 1)	FPS008 (Fig. 1)
Application	Chevy - Small	Chevy - Large	Chevy - Large
Dimension A	12.83	14.14	14.14
Dimension B	.450	.450	.450
Dimension C	.170	.170	.170
Dimension D	2.49	2.49	2.49
Tooth Count	153	168	168
Pitch	12	12	12
Total Weight	5.65 lbs.	6.4 lbs.	6.4 lbs.
Counter Bal. Wt.	Neutral	Neutral	Neutral
Converter Pattern	3 on 10.75	6 on 10.75	6 on 11.50
Suggested Bolt Kit	FPH437625	FPH437625	FPH437625

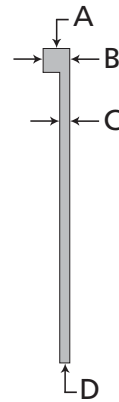
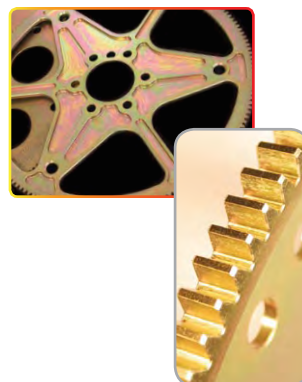


Fig. 1



Low Inertia *May not be suitable for extreme applications. Call to discuss your specific application.*

	FPS037 (Fig. 1)	FPS057 (Fig. 1)	FPS059 (Fig. 1)
Application	Chevy -Large	Chevy -Large	Chevy -Small
Dimension A	14.14	14.14	12.83
Dimension B	.450	.450	.450
Dimension C	.270	.270	.270
Dimension D	2.49	2.49	2.49
Tooth Count	168	139	153
Pitch	12	10	12
Total Weight	5.3 lbs.	5.3 lbs.	5.0 lbs.
Counter Bal. Wt.	Neutral	Neutral	Neutral
Converter Pattern	3 on 10.75	3 on 10.75	3 on 10.75
Suggested Bolt Kit	FPH437625	FPH437625	FPH437625



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	FP303 (Fig. 1)	FP335 (Fig. 1)	FP318A (Fig. 1)	FP318 (Fig. 1)
Application	Pontiac	Oldsmobile	GM LT-1	GM LT-1
Dimension A	13.96	13.89	12.83	12.83
Dimension B	.380	.450	.450	.450
Dimension C	.200	.170	.170	.170
Dimension D	2.91	2.55	2.072	2.072
Tooth Count	166	166	153	153
Pitch	12	12	12	12
Total Weight	6.3 lbs.	6.7 lbs.	5.8 lbs.	5.8 lbs.
Counter Bal. Wt.	Neutral	Neutral	Stk LT-1	Neutral
Converter Pattern	3 on 10.75 and 3 on 11.5	3 on 10.75 and 3 on 11.5	3 on 10.75 and 3 on 11.05	3 on 10.75 and 3 on 11.05
Suggested Bolt Kit	FPH500500	FPH437625	FPHM111.5	FPHM111.5

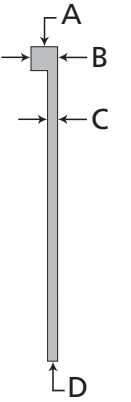


Fig. 1

	FP319 (Fig. 2)
Application	GM LS-1
Dimension A	14.20
Dimension B	.450
Dimension C	.150
Dimension D	2.00
Dimension E	.585
Tooth Count	168
Pitch	12
Total Weight	6.95 lbs.
Counter Bal. Wt.	Neutral
Converter Pattern	Stk 3 hole w/slot on 281mm and 3 on 10.75
Suggested Bolt Kit	FPHM111.5

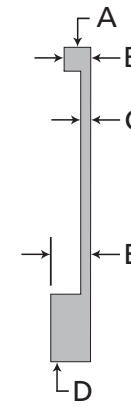


Fig. 2

	FP340A (Fig. 3)
Application	GM 3800
Dimension A	11.90
Dimension B	.450
Dimension C	.170
Dimension D	1.266
Dimension E	.690
Tooth Count	142
Pitch	12
Total Weight	5.28 lbs.
Counter Bal. Wt.	Stk 3800
Converter Pattern	stock OEM
Suggested Bolt Kit	n/a

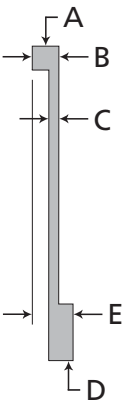


Fig. 3

Mopar flexplates made with an integral ring gear (not stock configuration).

	FP30606 (Fig. 1)	FP30608 (Fig. 1)	FP306168 (Fig. 1)	FP306139 (Fig. 1)
Application	Mopar - 6 hole	Mopar - 8 hole	Mopar *	Mopar *
Dimension A	13.2	13.2	14.14	14.14
Dimension B	.450	.450	.450	.450
Dimension C	.170	.170	.170	.170
Dimension D	2.40	2.40	2.40	2.40
Tooth Count	130	130	168	139
Pitch	10	10	12	10
Total Weight	6.4 lbs.	8.46 lbs.	6.4 lbs.	6.4 lbs.
Counter Bal. Wt.	Neutral	Neutral	Neutral	Neutral
Converter Pattern	3 on 10.75	3 on 10.75	3 on 10.75 and 3 on 11.5	3 on 10.75 and 3 on 11.5
Suggested Bolt Kit	FPH437625	FPH500500**	FPH500100**	FPH500100**
Centering Hub	Included	Included	n/a	n/a

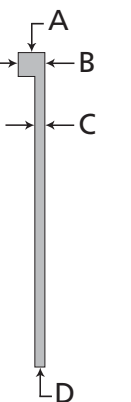


Fig. 1

*Has an 8 bolt crank pattern designed to fit Mopar "Hemi" engines. It will not fit the wedge type crank pattern

**Note: Adapters available for various Hemi cranks. Bolts may require additional length.



Built for the Most Extreme Conditions

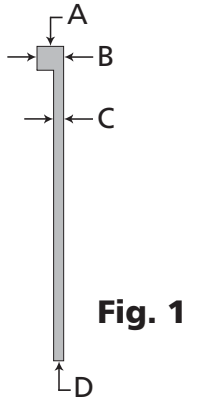


Fig. 1

	FPS020	FPS022*	Ten Pitch FPS027	FPS041	Ten Pitch FPS042	Ten Pitch FPS048
Application	Hemi - 8 bolt	Hemi - 8 bolt	Hemi - 8 bolt	Chevy - Large	Chevy - Large	Hemi - 8 bolt
Dimension A	14.14	13.00	14.14	14.14	14.14	13.2
Dimension B	.450	—	.450	.450	.450	.450
Dimension C	.300	.270	.300	.270	.270	.270
Dimension D	2.40	1.705	2.40	2.49	2.49	1.705
Dimension E	.500	.500	.500	n/a	n/a	.630
Tooth Count	168	—	139	168	139	130
Pitch	12	—	10	12	10	10
Total Weight	11.25	10.44	11.25	9.6	9.6	10.5
Counter Bal. Wt.	Neutral	Neutral	Neutral	Neutral	Neutral	Neutral
Converter Pattern	6 on 10.75 3 on 11.50 3 on 10.75	6 on 10.75 3 on 11.50 3 on 10.75	6 on 10.75 3 on 11.50 3 on 10.75	3 on 10.75 3 on 11.50 6 on 10.75	3 on 10.75 3 on 11.50	3 on 10.75 3 on 11.50
Suggested Bolt Kit	FPH500100	FPH500100	FPH500100	FPH437875	FPH437875	FPH500100

(*no ring gear)

(Longer)

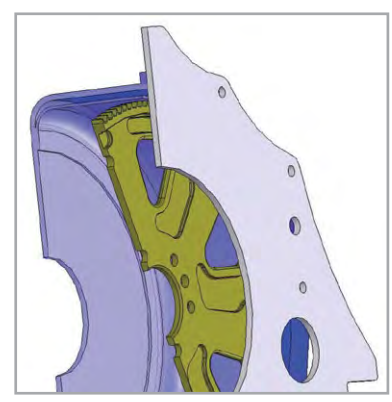
(Longer)

Note: Pro Mod plates now feature a brass bushing for the converter pilot

NEW!!! PRO MOD SOLUTIONS

Recent rule changes have presented significant challenges to Pro Mod racers. Fitting a large diameter flexplate inside of a standard, lined bellhousing simply does not work. Fortunately, Meziere Enterprises has teamed up with industry partners to solve this difficult issue. We now offer a new line of flexplates designed specifically for Pro Mod Vehicles with an adjusted outside diameter and tooth count. Our 136 tooth plates fit inside of lined bellhousings, incorporate "ten pitch" gear technology and when coupled with the appropriate Meziere starter can solve these difficult space and safety problems. All plates are certified SFI 29.2.

	FPS091	FPS092	FPS096
Application	Chevy - Custom	Chevy - Custom	Hemi - 8 Bolt
Dimension A	13.83	13.83	13.83
Dimension B	.450	.450	.450
Dimension C	.27	.27	.27
Dimension D	2.49	2.49	1.87
Tooth Count	136	136	136
Pitch	10	10	10
Total Weight	7.9 lbs.	7.9 lbs.	9.73 lbs.
Counter Bal. Wt.	Neutral	Neutral	Neutral
Converter Pattern	6 on 10.75	6 on 10.75	6 on 10.75
Suggested Bolt Kit	FPH500875	FPH437875	FPH500100
Notes	1/2" ø crank bolts	7/16" ø crank bolts	



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	FP311 (Fig. 3)	FP311A (Fig. 3)	FP311B (Fig. 3)
Application	SB Ford	SB Ford	SB Ford
Dimension A	13.30	13.30	13.30
Dimension B	.375	.375	.375
Dimension C	.180	.180	.180
Dimension D	1.753	1.753	1.753
Dimension E	.790	.790	.790
Tooth Count	157	157	157
Pitch	12	12	12
Total Weight	5.9 lbs.	6.0 lbs.	6.2 lbs.
Counter Bal. Wt.	Neutral	28	50
Converter Pattern	4 on 10.5 and 3 on 10.75	4 on 10.5 and 3 on 10.75	4 on 10.5 and 3 on 10.75
Suggested Bolt Kit	FPH437625	FPH437625	FPH437625

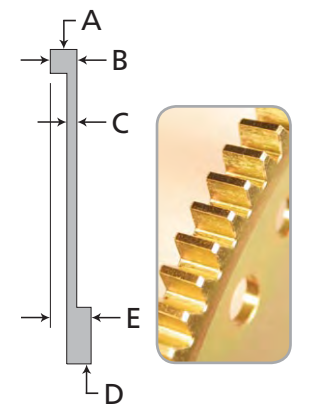


Fig. 3

	FP312 (Fig. 4)	FP312A (Fig. 4)	FP312B (Fig. 4)	FP346 (Fig. 4)
Application	SB Ford	SB Ford	SB Ford	Modular 4.6 and 5.8 with 8 bolt crankshaft
Dimension A	14.24	14.24	14.24	14.24
Dimension B	.375	.375	.375	.375
Dimension C	.180	.180	.180	.180
Dimension D	1.753	1.753	1.753	1.753
Dimension E	.875	.875	.875	.875
Tooth Count	164	164	164	164
Pitch	12	12	12	12
Total Weight	7.26 lbs.	7.4 lbs.	7.5 lbs.	7.26
Counter Bal. Wt.	Neutral	28	50	Neutral
Converter Pattern	3 on 10.75 and 3 on 11.5 4 on 10.5 and 4 on 11.38	3 on 10.75 and 3 on 11.5 4 on 10.5 and 4 on 11.38	3 on 10.75 and 3 on 11.5 4 on 10.5 and 4 on 11.38	3 on 10.75 and 3 on 11.5 4 on 10.5 and 4 on 11.38
Suggested Bolt Kit	FPH437625	FPH437625	FPH437625	FPHM101.0

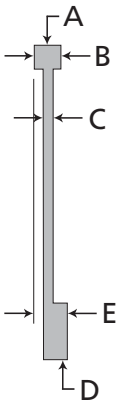


Fig. 4

	FP308 (Fig. 2)	FPT308 Ten Pitch (Fig. 2)
Application	BB Ford	BB Ford
Dimension A	14.21	14.21
Dimension B	.450	.450
Dimension C	.165	.165
Dimension D	2.502	2.502
Dimension E	.370	.370
Tooth Count	164	140
Pitch	12	10
Total Weight	6.94 lbs.	6.94 lbs.
Counter Bal. Wt.	Neutral	Neutral
Converter Pattern	3 on 10.75 and 3 on 11.5 4 on 11.38	3 on 10.75 and 3 on 11.5 4 on 11.38
Suggested Bolt Kit	FPH437625	FPH437625

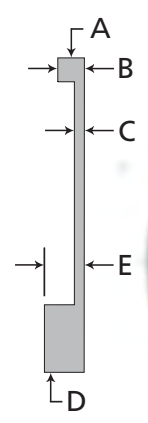
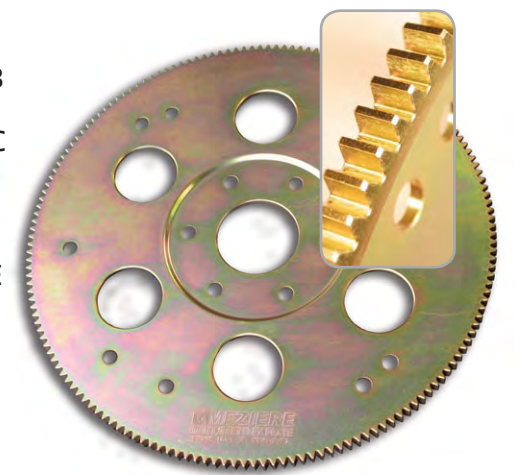


Fig. 2



Flexplate Tool



One for the Tool Box! Because we race, and get what it takes, we have produced the best flex plate turning tool on the market. The slim design lets you grab the gear teeth straight, even if you have a mid-motor plate. A combination of hardened steel and alloy steel materials boasts "no compromise" and a polished surface finish is protected by black oxide coating. Positive pulling is finally a reality!

FPA1001

Combos



TSF112



TSF110

Make the wholesale switch!

Whether you are beginning a new build or solving problems with older components you can get the combo, get a complete and solid system in place and save some money in the process.

Application	Starter #	Flexplate #	Combo #
Chevrolet 12 pitch	TS300	FP300	TSF113
Chevrolet 12 pitch	TS400	FP300	TSF112
Chevrolet 10 pitch	TST400	FPT300	TSF110

Bolts and Spacers

FPH437625



Race proven

to be the very best. Sold with Locktite® thread locker.

Flexplate bolt specs.

- Six 7/16" diameter x 7/8" long
- Six 7/16" diameter x 5/8" long
- Six 1/2" diameter x 1/2" long
- Eight 1/2" diameter x 1" long
- Six 11mm diameter x 1.5mm x 35mm long

Part

- FPH437875**
- FPH437625**
- FPH500500**
- FPH500100**
- FPHM111.5**

FPA437125



Make the final connection with confidence. These converter bolt kits will take the abuse your engine gives out and will outlast any other bolt.

Converter bolt set specs.

- 7/16" diameter x 1.25" long
- 1/2" diameter x 1.5" long

Part

- FPA437125**
- FPA500150**

FPS437187



FPS437125

Achieve the proper clearance

with these precision spacers. Choose the exact thickness to put your clearance in range.

Bolt size Thickness Part

7/16"	.125"	FPS437125
7/16"	.187"	FPS437187
7/16"	.250"	FPS437250
1/2"	.125"	FPS500125
1/2"	.187"	FPS500187
1/2"	.250"	FPS500250

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100 Series pumps generate 35 gallons per minute or more of water flow. This series continues to expand and now covers applications from AMC to ROVER. Most pumps use a 1" NPT port to direct water into the pump via one of the inlet adapters. These adapters are available in rubber hose and many AN sizes. Extended inlets, extensions, and angle adapters are also available.



200 Series are currently available for Big Block Chevy and Ford, Small Block Chevy, Mopar B/ RB and HEMI engines. This line is a new and innovative design with an integrated expansion tank to remedy the problems associated with low and horizontally mounted radiators. Everyone that has installed this pump is amazed at how simple the cooling system becomes.



300 Series pumps are the highest flow electric water pumps on the market. Most people use these on street high performance cars. Although the appearance of these models are similar to the 100 series pumps, internally everything is larger. Inlet inside diameters are 1 3/8" or 1 1/2". The impeller and pump cavity allow for greater volume of water. The Heavy Duty motors provide increased torque and RPM. The resulting flow rate of 55 GPM is enough to cool anything from a 600+ HP circle track car to a 2200 HP PRO MOD. We strongly recommend this series for supercharged, nitrous-oxide and high performance street engines. Applications now include radiator mount and three remote versions.



400 Series belt driven pumps are show quality outside and race bred inside. They are available for Big Block Chevy and Small Block Chevy (standard and reverse rotation). These pumps are all billet construction. The appearance and unmatched low speed flow numbers make them popular with the street rod crowd. The high RPM performance is capable of cooling any race engine.



500 Series pumps and radiator drop in kits are designed for specific import engines and/or cars. WPK part numbers are kits that convert the application from a belt driven, block mounted factory water pump to a remote electric. We have found that using the radiator as a platform for our popular WP136 pump has allowed hundreds of new sport compact car applications an easy way to plumb an electric water pump.



100 Series

200 Series

300 Series

400 Series

500 Series

Water Pump Features

Water Pump Gaskets & O-rings



Performance
The design of the CNC machined impeller is the key to the performance of our pumps.



Longevity
One piece carbon-ceramic seal offers a life expectancy of 10,000 hours.



WP09W

Corrosion Resistant
Corrosion can cause premature failure in the electrical portion of a pump. To combat this we supply a weather tight connector with our electric water pumps.



Durability
Epoxy coated motor windings protect against failure caused by harmonic vibration.



No Interference
Radio frequency suppression circuit incorporated into the motor brush card reduces "RF" interference.



WIK346

Relay Kit
Using a relay when wiring your electric water pump can save you from overloading existing wires and supply the pump with ample power. This kit is designed for Ford modular installations with wires cut to length but can be used for any of our electric pumps.

Application Electrical Relay
Part # WIK346

Colors & Finishes

Most water pumps and accessories can be ordered in one of five finishes. Just insert the corresponding letter (R for Red) in the part number. (See example)
R=Red, **B**=Blue, **S**=Black, **U**=Polished, **C**=Chrome.

All pumps (except five part numbers) are fully polished to a show finish before anodizing. Any parts ordered as polished will be bare aluminum. Chrome parts are available but may require up to 3-4 weeks for delivery from the time of the order.

Example: WP100RHD would be a Water Pump, 100 series, Red color with Heavy Duty option.

Motor Options

Electric pumps may be ordered with a Heavy Duty option. This provides more power and RPM, increasing flow and pressure. The Heavy Duty "HD" option is recommended for street cars and other continuous duty applications (where High Flow model pumps are not available). This option also adds 1 lb. to the total weight, add 1/2" to the length of the pumps, and 2 amps to current draw. **HD**=Heavy Duty.

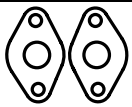

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Part #	Gasket Description	Reference Diagram
UNIVERSAL		
WPG001	Front Plate Gasket	
CHEVROLET		
WPG100	Big Block Chevy Flange (pair)	
WPG101	Small Block Chevy Flange (pair)	
GENERAL MOTORS		
WPG103	Pontiac Front Cover	
WPG1031	Pontiac Flanges (pair)	
WPG135	Oldsmobile Flange (pair)	
WPG119	LS-X (pair)	
WPG319	WP319 resealing kit	
CHRYSLER / MOPAR		
WPG106	Big Block Mopar (pair)	
WPG114	Small Block Mopar Flange (pair)	
WPG115	Small Block Mopar Back Plate	
FORD		
WPG108	Big Block Ford Flange (pair)	
WPG111	Small Block Ford Traditional (pair)	

Water Pump Gaskets & O-rings

Water Pump Gaskets & O-rings

FORD		
WPG170	FE Ford Flange (pair)	
WPG173	Small Block Ford Flange '94-'95 style (pair)	

Part #	O-Ring Description	O-Ring Number(s)
Water Pump O-Rings		
WPG801	200 Series Tank O-Ring	-157
WPG802	Transmission Pan O-Ring	custom
WPG908	Heater Port Fitting O-Ring	-908
WPG803	WP103 Pontiac Sleeve O-Rings (2 pcs)	-212 x2
WPG804	WP125 Buick O-Ring Kit (4 pcs)	-239, -215, -214, -205
WPG805	WP311/312 Front Plate O-Ring	-048
WPG806	Honda Idler Plate 19/22T O-Ring	-240
WPG807	Honda Idler Plate 26T O-Ring	-247
WPG808	Nissan Block Off Plate O-Ring	-156
WPG809	WP361/362 O-Ring Kit (2 pcs)	-160, -233
WPG810	WP336/337 O-Ring	-160
WPG811	WP136 Base O-Ring	-230
WPG812	WP137 O-Ring Kit (3 pcs)	-230, -155, -123
WPG813	WP430 O-Ring Kit	-236
Fitting O-Rings		
WPG920	WN Series Fitting O-Ring	-222
WPG916	#16AN Fitting O-Ring	-916
WPG911	#12AN Fitting O-Ring	-911
WPG910	#10AN Fitting O-Ring	-910
WPG908	#08AN Fitting O-Ring	-908
Waterneck O-Rings		
WPG814	WN0019 LS-X	-228
WPG820	WN0020 Swivel Kit (3 pcs)	-228, -222 x2
WPG814	WN0021 / WN0022	-228
WPG815	WN0023 Ford Small Block	-908, -230
WPG814	WN0029 Big Block Mopar	-228
WPG816	WN0030 Small Block Mopar	-140
WPG814	WN0039 LS-X	-228
WPG814	WN0812, WN0816	-228
WPG814	WN0912, WN0916	-228

Waterneck O-Rings (continued)		
WPG814	WN0028 Spacer	-228
WPG814	WN1028 Spacer	-228
WPG814	WN1912	-228
WPG814	WN1916	-228
Block Adapter O-rings		
WPG817	BBC WP80 (pair)	-223
WPG817	BBC WP8012AN (pair)	-223
WPG817	BBC WP8016AN (pair)	-223
WPG818	SBC WP8112AN (pair)	-216
WPG818	SBC WP8116AN (pair)	-216
WPG819	DRCE WP8612AN (pair)	-220
WPG819	DRCE WP8616AN (pair)	-220

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Reliability is how we made our name. Although uncommon, failures do occur. The design that makes them so dependable also makes them non-field serviceable, so it is a good idea to keep a spare pump or center-section on hand. This replacement unit is not just a motor, it comes complete from end cap to impeller and includes wiring harness, gasket and hardware. 18 of the 21 100-200 series pumps utilize the WP150 center section. Spare gaskets can be ordered as well. The part number for most gaskets is 'WPG' then the pump number.

*Comes Complete!
Installs in Minutes!*



Specify color and options when ordering.



Water Pumps • Chevrolet 100 & 200 Series

Water Pumps • Chevrolet 300 Series

Recommended for Sport, Drag Cars and Mild Street Cars. All 100, and 200 Series pumps for Chevys are machined with enough back spacing to clear cam belt drives and are compatible with most roots blower drives. **Passenger side inlet port standard.**

35 GPM Standard
42 GPM Heavy Duty

For more technical information please see our Water Pump Buyer's Guide on page 13.



WP101R



WPL100S



WP101C



1" NPT inlet required.
See page 40.

Application	Pump Model	Color	Additional Option	Weight (standard)	Weight (HD)	Depth (standard)	Depth (HD)
BBC 396-572	WP100	R,B,S,U,Ⓞ	HD	5.8 lbs.	6.8 lbs.	6.780"	7.280"
SBC 4.3 V6, 262-400	WP101	R,B,S,U,Ⓞ	HD	5.5 lbs.	6.5 lbs.	6.780"	7.280"
BBC Lightweight	WPL100	S	HD	5.2 lbs.	6.2 lbs.	6.780"	7.280"



WP200R



Fill it and forget it. The 200 Series pumps are the only viable method to properly fill a cooling system when filling through the radiator is not an option. Fill necks trap air leaving room for coolant to rapidly expand and overheat. The built-in expansion tank separates the air and provides coolant free from air and the cavitation it creates. Eliminate air and problems with the WP200. You will run cooler or your money back.

35 GPM Standard
42 GPM Heavy Duty



1" NPT Inlet required.
See page 40.



Spacers
See pages 44 & 45.



Relay Kit WIK346
See page 14.



Radiator Cap
See page 38.

Application	Pump Model	Color	Additional Option	Weight (standard)	Weight (HD)	Depth (standard)	Depth (HD)
BBC 396-572	WP200	R,B,S,U,Ⓞ	HD	8.5 lbs.	9.5 lbs.	6.780"	7.280"
SBC 4.3 V6, 262-400	WP201	R,B,S,U,Ⓞ	HD	8.2 lbs.	9.2 lbs.	6.780"	7.280"

R=Red, B=Blue, S=Black, U=Polished, Ⓞ=Chrome, HD=Heavy Duty. When ordering please choose part #, color, and any options you prefer. For example **WP100RHD** would be a **Water Pump**, **100** series, **Red** color with **Heavy Duty** option. See our 'Water Pump Buyer's Guide' on pages 13-14 for more details.



WP300C

High performance meets street practicability. We now offer our High Flow 55 GPM pumps for Chevrolet engines with a heater or bypass port. Fittings are available for a wide variety of hose connections. There's no need to freeze this winter...hook up the heater and go cruise!

Ported option available in all colors.

Application	Pump Model	Color	Ported Option	Weight (standard)	Depth (standard)
BBC 396-572	WP300	R,B,S,U,Ⓞ	P (ported)	7.4 lbs.	7.280"
SBC 4.3 V6, 262-400	WP301	R,B,S,U,Ⓞ	P (ported)	7.0 lbs.	7.280"

Take on both engine cooling and transmission cooling with our new line of Trans Pan ready pumps. Each model has been ported especially to take the challenge out of connecting to our heat exchanging transmission pan. All that is left to do is make the two connecting hoses and your transmission temperatures will be stabilized by your cooling system. *See page 48 for trans pan info.*



WT100



WT200



WT300

Application	Pump Model	Color	Options
Chevy BBC Standard	WT100	R,B,S,U,Ⓞ	HD
Chevy BBC Reservoir	WT200	R,B,S,U,Ⓞ	HD
Chevy BBC High Flow	WT300	R,B,S,U,Ⓞ	

R=Red, B=Blue, S=Black, U=Polished, Ⓞ=Chrome, HD=Heavy Duty. When ordering please choose part #, color, and any options you prefer. For example **WP100RHD** would be a **Water Pump**, **100** series, **Red** color with **Heavy Duty** option. See our 'Water Pump Buyer's Guide' on pages 13-14 for more details.

High Flow Pumps are the choice of NHRA Pro Stock champions Greg Anderson and Jason Line to keep cool in the heat of battle. The Meziere 300 series pumps changed the rules about using electric pumps on high horsepower street engines, nitrous motors, or super/turbo charged cars. Delivering 55 gallons per minute of flow, the 300 series pumps offer great cooling solutions to high horsepower vehicles. Higher flow rates reduce the chance of detonation.

55 GPM Standard



WP301UP
Bypass port

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300 Series

Trans Pan Ready

100 Series

200 Series

Water Pumps • Chevrolet

400 Series Mechanical & Fittings

Water Pumps • GM & Pontiac

100 Series Electric

V-Belt 400 Series

Serpentine 400 Series

Heater / Bypass



WP401U



SINGLE GROOVE PULLEY WP420
Available color: **U,Ⓞ**



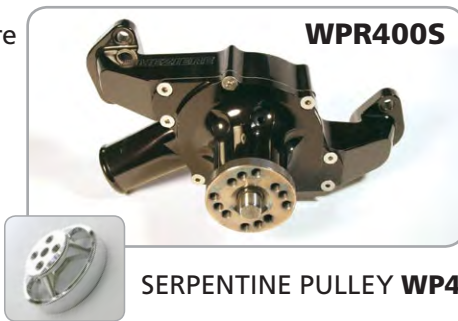
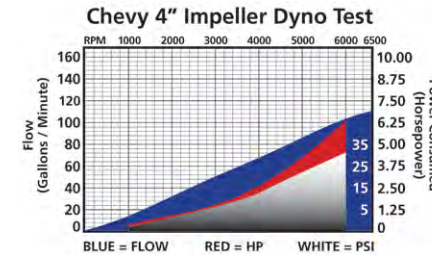
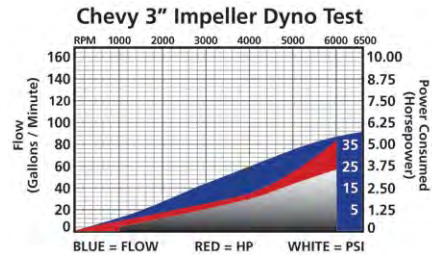
DOUBLE GROOVE PULLEY WP421
Available color: **U,Ⓞ**

Our pulleys have a 6.5" diameter and a unique style with 5 large windows.

Application	Pump Model	Impeller Diameter	Color	Additional Option	Weight (standard)	Block to Hub
BBC 396-572	WP400	3"	S,U,Ⓞ	P (ported)	5.4 lbs.	5.75"
SBC 4.3 V6, 262-400	WP401	3"	S,U,Ⓞ	P (ported)	5.4 lbs.	5.625"
SBC 4.3 V6, 262-400	WP402	4"	S,U,Ⓞ	P (ported)	6.8 lbs.	5.625"

New mechanical options are available for small block Chevy. Our design team produced a highly effective street pump but we didn't rest there. We now offer a full race, 4" impeller mechanical pump and its performance rivals the most renowned race pumps on the market. Both low and high pressure ports are available for auxiliary plumbing. Expect the very best in performance and durability.

- 3/4" Roller bearing
- CNC machined impeller
- Carbon ceramic seal
- Triple bolt pattern flange
- Stainless steel hardware



WPR400S



WPR402U



SERPENTINE PULLEY WP422 Dia:5.9" Available color: **U,Ⓞ**

Application	Pump Model	Impeller Diameter	Color	Additional Option	Weight (standard)	Block to Hub
BBC 396-572	WPR400	3"	S,U,Ⓞ	P (ported)	5.5 lbs.	5.75"
SBC 4.3 V6, 262-400	WPR401	3"	S,U,Ⓞ	P (ported)	5.5 lbs.	5.63"
SBC 4.3 V6, 262-400	WPR402	4"	S,U,Ⓞ	P (ported)	6.8 lbs.	5.63"

The "R" in the prefix of these part numbers indicates reverse rotation making it compatible with most serpentine belt applications.



Heater & Bypass

If your pump was ordered with the ported option ('P' added to the part number) Find the available connection fittings from the list at the right.

Description	Fitting #
5/8" Hose Barb	WPM58
3/4" Hose Barb	WPM34
-08AN	WPM08
-10AN	WPM10
-12AN	WPM12

R=Red, B=Blue, S=Black, U=Polished, Ⓞ=Chrome, HD=Heavy Duty. When ordering please choose part #, color, and any options you prefer. For example **WP100RHD** would be a **Water Pump**, **100** series, **Red** color with **Heavy Duty** option. See our 'Water Pump Buyer's Guide' on pages 13-14 for more details.



WP118S

The LT-1 water pump has proven our reliability with customers logging 50,000 to 60,000 miles on their daily drivers. For many, the economical price and longevity make it a logical choice over the factory replacement. Along with the horsepower savings, the relocated seal drain eliminates the possibility of a pump leak causing optispark failure. The need for the heavy and expensive factory timing chain is also eliminated. Some F-bodies may require trimming of the fan shroud. **No inlet required.**

- **Frees over 10 rear wheel HP**
- **43 GPM Standard or 55 GPM Heavy Duty**

If a replacement gasket is needed, please use GM part #10128329

Application	Pump Model	Additional Option	Weight (standard)	Weight (HD)	Depth (standard)	Depth (HD)
All LT-1 vehicles	'93-'97 WP118	HD	3.6 lbs.	4.6 lbs.	3.000"	3.500"



WP140R

The performance enthusiasts driving and racing the powerful GM 3800 demanded better cooling. Meziere brings the solution. Not only do drivers enjoy better cooling and less parasitic loss (more horsepower) the WP140 has a clean billet look for a custom engine compartment. *WP140 fits GM 3800 engines 1997-2006.*

- Compact and lightweight
- Three custom finishes
- No modification required

35 GPM Standard
42 GPM Heavy Duty

Installation requires a 4" shorter belt, '97-'98 use Gates K060895, for 99-later use Gates K060875.

Application	Pump Model	Color	Additional Option	Weight (standard)	Weight (HD)	Depth (standard)	Depth (HD)
3800-V6	WP140	R,B,S,U,Ⓞ	HD	4.1 lbs.	5.1 lbs.	3.8"	4.3"

Word spreads fast among Pontiac racers regarding this pump. Walking through the pits at any national or divisional race, it is hard to find a Pontiac motor without our pump. Installation can be performed between rounds. After removing the water port sleeves, just clean the ports and gasket surface and the pump will bolt right up. **No inlet required.**

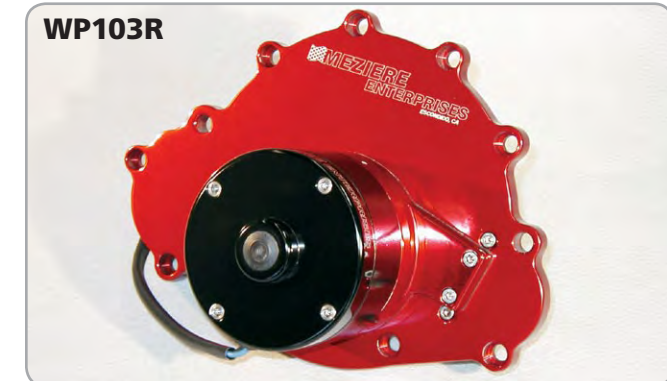
35 GPM Standard
42 GPM Heavy Duty

*1962 to '68 engines must use '69 & later 11 bolt timing cover (GM part #527291), vibration damper and pulleys.

Countersunk bolts and stock thickness body make it compatible with engine plates.

Application	Pump Model	Color	Additional Option	Weight (standard)	Weight (HD)	Depth (standard)	Depth (HD)
301 - 455	'69*-'81 WP103	R,B,S,U,Ⓞ	HD	5.9 lbs.	6.9 lbs.	3.776"	4.276"

R=Red, B=Blue, S=Black, U=Polished, Ⓞ=Chrome, HD=Heavy Duty. When ordering please choose part #, color, and any options you prefer. For example **WP100RHD** would be a **Water Pump**, **100** series, **Red** color with **Heavy Duty** option. See our 'Water Pump Buyer's Guide' on pages 13-14 for more details.



WP103R

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LT-1

GM 3800

Pontiac

Our LS-X Originally designed for Stock and Super Stock racers, this pump can also be found on street rods, dune buggies and modified street cars. This pump is not designed to accommodate factory accessories (i.e. P/S, ALT, A/C).

35 GPM Standard or 42 GPM Heavy Duty • Driver or Passenger side inlet ports



WP1125 1 1/4" outlet fitting included.

Application	Pump Model	Color	Additional Option	Weight (standard)	Weight (HD)	Depth (standard)	Depth (HD)
Camaro / Firebird	'98-'02 WP119	R,B,S,U,G	HD	7 lbs.	8 lbs.	6.700"	7.200"
Corvette	'97-up WP119	R,B,S,U,G	HD	7 lbs.	8 lbs.	6.700"	7.200"
Chevy / GMC 5.3	WP119	R,B,S,U,G	HD	7 lbs.	8 lbs.	6.700"	7.200"



WP319B

Our street version for the LS engine boasts 55 GPM flow rate and ease of installation. Accommodates the factory accessory belt. Proven to free up more than 11 rear wheel horsepower in most applications.

Accessorize with waterneck #WN0019 on page 42.

Replacement center section part number is WP359

WP319 Application	Engine	Pump Model	Color	Weight	Depth
Corvette	1997 - 2004	LS-1	WP319	R,B,S,U,G,N	14.9 lbs. 7.8"
Corvette	2005 - 2007	LS-2	WP319	R,B,S,U,G,N	14.9 lbs. 7.8"
Corvette	2007 - 2010	LS-3	WP319	R,B,S,U,G,N	14.9 lbs. 7.8"
Camaro	1998 - 2002	LS-1	WP319	R,B,S,U,G,N	14.9 lbs. 7.8"
Firebird Trans Am	1998 - 2002	LS-1	WP319	R,B,S,U,G,N	14.9 lbs. 7.8"
Pontiac GTO	2004	LS-1	WP319	R,B,S,U,G,N	14.9 lbs. 7.8"
Pontiac GTO	2005 - 2006	LS-2	WP319	R,B,S,U,G,N	14.9 lbs. 7.8"
Cadillac CTS	2004 - 2005	LS-6	WP319	R,B,S,U,G,N	14.9 lbs. 7.8"
Cadillac CTS	2006 - 2007	LS-2	WP319	R,B,S,U,G,N	14.9 lbs. 7.8"

Application list based on internet research - please verify outlet location before ordering.

Fitting available for AN line connection. See page 40 for details.

R=Red, B=Blue, S=Black, U=Polished, G=Chrome, HD=Heavy Duty. When ordering please choose part #, color, and any options you prefer. For example **WP100RHD** would be a **Water Pump**, **100** series, **Red** color with **Heavy Duty** option. See our 'Water Pump Buyer's Guide' on pages 13-14 for more details.

The new Corvette / Camaro pump is here! This completely new design has been one of the most requested pumps in recent memory. Our engineers went to work to provide our brand of solid quality water pump solutions to the proud owners of the new Chevrolet muscle cars, and the result is one of the best performing pumps we have ever developed!

Replacement center section part number is WP359

Fitting available for AN line connection. See page 40 for details.



WP329

Application	Engine	Pump Model	Color	Depth
Camaro-manual trans	2010 - 2013	LS-3	WP329	Clear Ano 8.15"
Corvette	2010 - 2013	LS-3	WP330	Clear Ano 7.65"
Camaro-auto trans	2010-2013	L99	WP331	Clear Ano 9.25"

Take advantage of our superior flow rates and minimal horsepower draw with the new mechanical pump for LS engines.



WP419



WN1019

See page 42 for details

Application	Pump Model	Color*	Weight	Depth
LS-X engines 1997 - 2013	WP419N	Satin	11.6 lbs.	5.95"

Application list based on internet research - please verify outlet location before ordering. *WP419 available in Satin finish only - other color options do not apply.

R=Red, B=Blue, S=Black, U=Polished, G=Chrome, N=Natural, HD=Heavy Duty. When ordering please choose part #, color, and any options you prefer. For example **WP100RHD** would be a **Water Pump**, **100** series, **Red** color with **Heavy Duty** option. See our 'Water Pump Buyer's Guide' on pages 13-14 for more details.

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Water Pumps • Buick & Olds

100 Series Electric

Water Pumps • Ford

Big Block

As you can see this pump covers from '61 Olds Starfire to a '02 Range Rover. It has proven its performance dealing with the extreme horsepower of a Duttweiler Turbo V-6 as well as being tough enough for the extreme sand cars of the desert southwest.

35 GPM Standard
42 GPM Heavy Duty

1" NPT inlet required. See page 40.

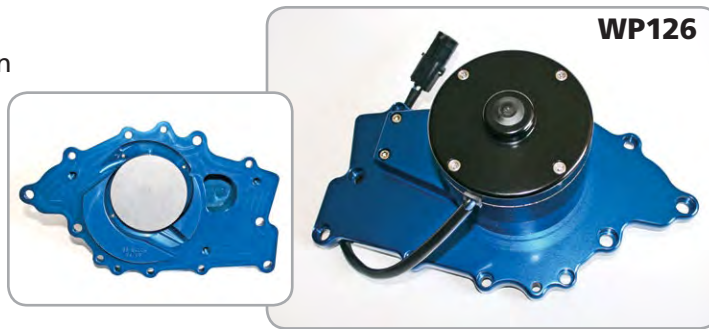


Application	Pump Model	Color	Additional Option	Weight (standard)	Weight (HD)	Depth (standard)	Depth (HD)
Buick V6 169-274	'61-'89 WP125	R,B,S,U,Ⓞ	HD	7.8 lbs.	8.8 lbs.	5.784"	6.284"
Buick V8 215-350	'61-'74 WP125	R,B,S,U,Ⓞ	HD	7.8 lbs.	8.8 lbs.	5.784"	6.284"
Jeep V6 255	WP125	R,B,S,U,Ⓞ	HD	7.8 lbs.	8.8 lbs.	5.784"	6.284"
Olds V8 215	'61 & '63 WP125	R,B,S,U,Ⓞ	HD	7.8 lbs.	8.8 lbs.	5.784"	6.284"
Rover 3.5-4.6	'64-up WP125	R,B,S,U,Ⓞ	HD	7.8 lbs.	8.8 lbs.	5.784"	6.284"

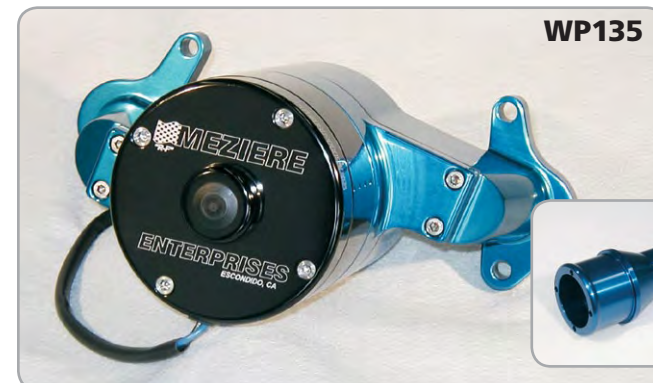
The big block Buick's factory timing cover forced us to do things a little different in the design of this pump. The end result gives you all the features of the 100 series pump and clearance for non-A/C V-belt routing. **No inlet required.**

35 GPM Standard
42 GPM Heavy Duty

Pump center-section is unique to this model; use part # WP156.



Application	Pump Model	Color	Additional Option	Weight (standard)	Weight (HD)	Depth (standard)	Depth (HD)
400/430/455	'67-'76 WP126	R,B,S,U,Ⓞ	HD	5.7 lbs.	6.7 lbs.	4.000"	4.500"



Coverage for Oldsmobile V-8's is easy. All Big Block, Small Block, Corporate, and Diesel engines after 1965 share the same water pump. The pump bolts to the factory timing plate with hardware and gaskets provided.

35 GPM Standard
42 GPM Heavy Duty

***Passenger side inlet only. Not compatible with 1964 330cid. driver side inlet radiator.**

WP2175 Recommended. See page 40.

Application	Pump Model	Color	Additional Option	Weight (standard)	Weight (HD)	Depth (standard)	Depth (HD)
260-455	'64*-'86 WP135	R,B,S,U,Ⓞ	HD	5.8 lbs.	6.8 lbs.	6.100"	6.600"

R=Red, B=Blue, S=Black, U=Polished, Ⓞ=Chrome, HD=Heavy Duty. When ordering please choose part #, color, and any options you prefer. For example **WP100RHD** would be a **Water Pump**, **100** series, **Red** color with **Heavy Duty** option. See our 'Water Pump Buyer's Guide' on pages 13-14 for more details.



This pump is used on everything from home built 429ci powered street rods to Jon Kasse 812ci. IHRA Pro Stock engines. The back plate is available for stock front cover installations but may not be necessary for some racing blocks and newer motor plates. Compatible with belt drives.



1" NPT inlet required. See page 40.



Application	Model #	Color	Additional Options	Weight (standard)	Weight (HD or 16)	Depth (standard)	Depth (HD or 16)
429-460 Back plate .19 thick	WP108 WP109	R,B,S,U,Ⓞ R,B,S,U,Ⓞ	HD Complete your pump with this back plate!	5.9 lbs.	6.9 lbs.	6.100"	6.600"



Never to leave the odd man out, our "FE" pump completes the Ford family of V-8's.

Drivers side inlet only.

35 GPM Standard or GPM Heavy Duty 42

Inlet WP2175 recommended. See page 40.



Application	Model #	Color	Additional Options	Weight (standard)	Weight (HD or 16)	Depth (standard)	Depth (HD or 16)
427 F.E. 352, 390, 406, 427, 428	WP170	R,B,S,U,Ⓞ	HD	5.9 lbs.	6.9 lbs.	7.430"	8.100"



By popular demand, we present the reservoir pump for Big Block Ford. The reservoir pump for Big Block Ford is perfect for low mounted and out of the way radiator placements.

35 GPM Standard or GPM Heavy Duty 42

1" NPT inlet required. See page 40.



Application	Model #	Color	Additional Options	Weight (standard)	Weight (HD or 16)	Depth (standard)	Depth (HD or 16)
429-460 Back plate .19 thick	WP208 WP109	R,B,S,U,Ⓞ R,B,S,U,Ⓞ	HD Complete your pump with this back plate!	8.2 lbs.	9.2 lbs.	6.100"	6.600"



This pump is an Hi-Flow version of our popular Big Block Ford pump. The output of 55 GPM will cool anything from street rods to 812ci. IHRA Pro Stock engines. The back plate is available for stock front cover installations but may not be necessary for some racing blocks and newer motor plates. **Different fitting required for this pump. See 'WN' series on page 38-39. 55 GPM Standard**



Application	Model #	Color	Weight (standard)	Depth (standard)
429-460 Back plate .19 thick	WP308 WP109	R,B,S,U,Ⓞ R,B,S,U,Ⓞ	7.4 lbs.	6.600"

R=Red, B=Blue, S=Black, U=Polished, Ⓞ=Chrome, HD=Heavy Duty. When ordering please choose part #, color, and any options you prefer. See our 'Water Pump Buyer's Guide' on pages 13-14 for more details.

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SB Buick

BB Buick

Oldsmobile

BB Ford

FE Ford

BB Ford

300 Series

Water Pumps • Ford

100 Series Small Block

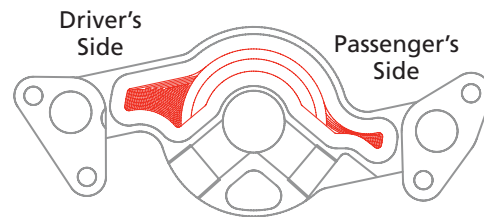
Water Pumps • Ford & AMC

Electric and Mechanical for Small Block



WP111S

WP111 is the most common pump body for small block Ford engines. It will bolt up to front covers from the very early 1964 style through 1993 and slightly beyond. It has been used as the heart of many cooling systems and can be coupled with one of several different back plates to complete your system right.



Note: Carefully compare this graphic with the graphic found on the next page to confirm which part number pump will mate correctly to your front cover.



1" NPT inlet required. See page 40.



BACK

Application	Pump Model	Color	Additional Option	Weight (standard)	Weight (HD)	Depth (standard)	Depth (HD)
SB Ford	WP111	R,B,S,U,Ⓞ	HD	5.6 lbs.	6.6 lbs.	6.300"	6.800"

For the correct back plate carefully check the chart below. We offer a variety of plates to mate with the WP111 pump. One of these back plates is used to cover the center chamber in a stock type front cover. The back plate will not be used if you are using a modern belt cam drive system. Choosing correctly will ensure easy installation.



WP112U



WP113B



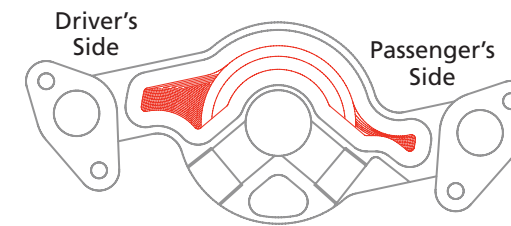
WP123R

Application	Plate Model	Color	Thickness
221-289 early	WP112	R,B,S,U,Ⓞ	.19"
Traditional 289 / 5.0	WP113	R,B,S,U,Ⓞ	.19"
Cleveland	WP123	R,B,S,U,Ⓞ	.19"

R=Red, B=Blue, S=Black, U=Polished, Ⓞ=Chrome, HD=Heavy Duty. When ordering please choose part #, color, and any options you prefer. For example **WP111SHD** would be a **Water Pump**, **100** series, **Black** color with **Heavy Duty** option. See our 'Water Pump Buyer's Guide' on pages 13-14 for more details.

WP173 is the right choice if you have a later model front cover on your 5.0 or 351 engine. This is known as the 1994-1995 design and is also shared by Ford Motorsport front covers. In addition, this has been the design chosen universally for front covers purchased with belt cam drive systems.

35 GPM Standard
42 GPM Heavy Duty



Note: Carefully compare this graphic with the graphic found on the previous page to confirm which part number pump will mate correctly to your front cover.



WP173



WP174



If you are using a stock style front cover you will need the back plate to complete the system. If you have an aftermarket cam belt drive system, you will not need the back plate. This pump is suitable for all known belt drive systems including Danny-B, Yates, Jesel and Race Master.

Application	Pump Model	Color	Additional Option	Weight (standard)	Weight (HD)	Depth (standard)	Depth (HD)
'94-'95 Short SB Ford	WP173	R,B,S,U,Ⓞ	HD	5.6 lbs.	6.6 lbs.	6.100"	6.600"
Back plate .19 thick	WP174	R,B,S,U,Ⓞ	Complete your pump with this back plate!				

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WP411

Off road racing demands more performance from a cooling system than any other form of motorsport. The WP411 was born from the need desert racers have to out flow other racing pumps in all RPM ranges. The WP411 does exactly that; more flow at low speeds and nearly double at high RPM.



Application	Pump Model	Color	Weight	Depth
Traditional Ford	WP411	Clear Ano	4.2 lbs.	6.25"
5.0 front cover (79-93 style)	WPR411 (reverse rotation)	Clear Ano	4.2 lbs.	6.25"

R=Red, B=Blue, S=Black, U=Polished, Ⓞ=Chrome, HD=Heavy Duty. When ordering please choose part #, color, and any options you prefer. For example **WP100RHD** would be a **Water Pump**, **100** series, **Red** color with **Heavy Duty** option. See our 'Water Pump Buyer's Guide' on pages 13-14 for more details.

Water Pumps • Ford

Small Block Ford High Flow and AMC

Water Pumps • Ford

Modular

SB Ford Street



These pumps share the feature of 55 GPM flow. The WP312 has a freewheeling idler pulley making this pump fully street ready and a 5.0 lover's dream come true. The WP311 has all the same features without the pulley making it perfect for racing applications. **55 GPM Standard**

- Heater & bypass fittings included
- Driver & passenger side inlet ports

*Will not fit "short water pump" timing covers; '92 & up T-Bird, Cougar, Explorer, all '94 & '95 Mustangs, and early Lightning F-150's.



1 3/4" inlet fitting included

Application	Pump Model	Color	Weight (standard)	Depth (standard)
289*-351W, 5.0-5.8 to '93*	WP311 (No pulley)	R,B,S,U,Ⓞ	8.6 lbs.	6.00"
289*-351W, 5.0-5.8 to '93*	WP312 (With pulley)	R,B,S,U,Ⓞ	10.2 lbs.	6.78"

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'94-'95 Street



373 & 374
Pumps designed and built for daily street use with provisions for the serpentine accessory drive belt.

1 3/4" inlet fitting included



Application	Pump Model	Color	Weight (standard)	Depth (standard)
SBF '94-'95, SBF '91-'95 (short)	WP373	R,B,S,U,Ⓞ	5.3 lbs.	4.510"
SBF '94-'95, SBF '91-'95 (short)	WP374	R,B,S,U,Ⓞ	6.9 lbs.	4.750"

AMC



Treat your 360-401 AMC to an electric water pump. Save 11 rear wheel horsepower and get better low speed coolant flow.

35 GPM Standard
42 GPM Heavy Duty

1" NPT inlet required. See page 40.

Application	Pump Model	Color	Additional Option	Weight (standard)	Weight (HD)	Depth (standard)	Depth (HD)
AMC 360-401	WP111	R,B,S,U,Ⓞ	HD	5.6 lbs.	6.6 lbs.	6.300"	6.800"
Back Plate	WP127	R,B,S,U,Ⓞ	This plate is mandatory for all AMC electric pump conversions				

R=Red, B=Blue, S=Black, U=Polished, Ⓞ=Chrome, HD=Heavy Duty. When ordering please choose part #, color, and any options you prefer. For example **WP100RHD** would be a **Water Pump**, **100** series, **Red** color with **Heavy Duty** option. See our 'Water Pump Buyer's Guide' on pages 13-14 for more details.

Specifically for street driven and fully equipped race cars. Installation is nearly identical to the factory pump and can be completed in 2-3 hours. Aftermarket underdrive pulley sets may require a shorter serpentine belt.



55 GPM Standard
• Frees over 11 rear wheel HP • Cooler running in traffic



Cobra Note: 2003-2004 Cobra engines will not accept our Modular pumps. There will be clearance issues.

Application	Pump Model	Color	Weight (standard)	Depth (standard)	Pulley (diameter)
Ford Modular w/o idler pulley	WP345	S,Ⓞ	5.0 lbs.	3.500"	N/A
Ford Modular w/stock size pulley	WP346	S	6.9 lbs.	3.750"	5.100"
Ford Modular w/undersized pulley for blower drive clearance	WP347	S	6.9 lbs.	3.750"	4.700"
Ford Modular w/oversized pulley for aftermarket drive systems.	WP348	S	6.9 lbs.	3.750"	5.500"
Ford Modular super duty	WP349	S	9.3 lbs.	5.000"	5.100"

Elegant solutions for the new Ford 5.0

Ford's new "Coyote" engine has really been an exciting addition to the list of high tech powerplants. We offer 5 pumps to finish off the job of building one of these performance newcomers. From normally aspirated with no accessories to a variety of supercharged options, we have been hard at work to make sure you can keep it cool!



Application	Pump Model	Color	Weight (standard)	Depth (standard)	Pulley (diameter)
Ford Coyote no pulley	WP341	S	7.3 lbs.	5.200"	N/A
Ford Modular w/stock size pulley	WP342	S	9.1 lbs.	5.540"	5.5"
Ford Coyote KBell reduced pulley	WP343	S	9.0 lbs.	5.540"	4.8"
Ford Coyote Supercharged Cobra Jet	WP340	S	9.1 lbs.	5.540"	4.8"

R=Red, B=Blue, S=Black, U=Polished, Ⓞ=Chrome, HD=Heavy Duty. When ordering please choose part #, color, and any options you prefer. For example **WP100RHD** would be a **Water Pump**, **100** series, **Red** color with **Heavy Duty** option. See our 'Water Pump Buyer's Guide' on pages 13-14 for more details.

Modular

5.0 Coyote

Water Pumps • Mopar

100 & 200 Series Big Block

Water Pumps • Mopar

Big Block and Small Block

100 Series

100 Series

200 Series



WP105



Built as a low cost alternative to our WP106. The WP105 uses the stock Mopar water pump housing. This pump looks good and flows over 35 GPM. **Relocation of factory brackets may be required. Street engines over 450 HP use HD pumps.**

- Fits factory housing
- Installs in minutes
- Uses factory gaskets
- Street or strip

42 GPM Standard
45 GPM Heavy Duty

Application	Pump Model	Color	Additional Options	Weight (standard)	Weight (HD or 16)	Depth (standard)	Depth (HD or 16)
B/RB/Hemi 350-440	WP105	S,Ⓞ	HD	3.6 lbs.	4.6 lbs.	2.700"	3.200"

Tossing out your bulky factory water pump and switching to a Meziere pump will save space, horsepower, and remove about 10 lbs. from the front of your engine. See page 40 for AN line connection.

- Driver & passenger side inlet ports
- Temperature gauge adapters included
- Street or strip
- Plugs for both Driver and passenger sides
- Driver's side adapter for standard mechanical temp sender
- Adapter for 3/8 NPT electric sender

35 GPM Standard
42 GPM Heavy Duty



WP106

1" NPT inlet required. See page 40.

Application	Pump Model	Color	Additional Options	Weight (standard)	Weight (HD or 16)	Depth (standard)	Depth (HD or 16)
B/RB/Hemi 350-440	WP106	R,B,S,U,Ⓞ	HD	5.7 lbs.	6.7 lbs.	6.100"	6.600"



WP206

-12 O-ring outlet adapter required. See page 41.



1" NPT inlet fitting required. See page 40.



Developed to cure problems associated with low mounted or horizontal radiators, the 200 series pumps have a built-in expansion tank that serves as a fill point and air separator. Returning the pressure cap to the suction side of the system allows you to fill your dragster with the pump running and maintains the level by purging accumulated air before any water escapes. With a head of water above a self priming pump cavity, this design eliminates air locking and cavitation. See page 40 for AN line connection.

- Fills easily with the pump running
- Self priming and no cavitation
- Driver & passenger side inlet ports
- Temperature gauge adapters included

35 GPM Standard
42 GPM Heavy Duty

Application	Pump Model	Color	Additional Options	Weight (standard)	Weight (HD or 16)	Depth (standard)	Depth (HD or 16)
B/RB/Hemi 350-440	WP206	R,B,S,U,Ⓞ	HD	9.5 lbs.	10.5 lbs.	6.800"	7.300"

R=Red, B=Blue, S=Black, U=Polished, Ⓞ=Chrome, HD=Heavy Duty. When ordering please choose part #, color, and any options you prefer. For example **WP100RHD** would be a **Water Pump**, **100** series, **Red** color with **Heavy Duty** option. See our 'Water Pump Buyer's Guide' on pages 13-14 for more details.

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These high flow pumps keep extreme Mopars cool, a big hit with the high compression and supercharged crowd. We are proud to offer a true 55 GPM pump in the traditional Mopar configuration as well as a purpose built reverse flow 55 GPM pump. **Different fitting required for this pump. See 'WN' series on page 38-39.**



WP306B

See page 40 for AN line connection.



WP307R

WP306 includes:

- Plugs for both driver and passenger sides
- Driver's side adapter for standard mechanical temp sender
- Adapter for 3/8 NPT electric sender

Application	Pump Model	Color	Weight	Depth	Flow Direction	Outlet Configuration
BB Mopar B/RB & Hemi	WP306	R,B,S,U,Ⓞ	8.8 lbs.	7.25"	Standard	Std. Mopar
BB Mopar B/RB & Hemi	WP307	R,B,S,U,Ⓞ	8.1 lbs.	7.25"	Reverse	2X -12AN



WP114

This pump is at home making passes on the strip at Pomona or cruising the strip on Woodward Ave.

- Driver & passenger side inlet ports

Back plate will not fit late model cars with Magnum engines.



1" NPT Inlet required. See page 40.



WP115S

Application	Model #	Color	Additional Options	Weight (standard)	Weight (HD or 16)	Depth (standard)	Depth (HD or 16)
3.9 V-6 A273-360	WP114	R,B,S,U,Ⓞ	HD	5.7 lbs.	6.7 lbs.	6.100"	6.600"
Back plate	WP115	R,B,S,U,Ⓞ	SB Mopar Early				
Back plate	WP117	R,B,S,U,Ⓞ	SB Mopar '91 - up				

The best solution for the new Mopar Hemi engine is the Meziere high flow pump. Step up the cooling system to world class performance and enjoy all of the performance benefits as well as the stunning good looks provided by our exceptional design team. Sold separately the back plate utilizes the factory molded gasket and provides exceptional sealing. The inlet of the pump requires our WN style fittings found on Page 38-39.



1 1/2" fitting included



1 3/4" fitting included

Application	Model #	Back Plate	Color	Combined Weight	Combined Depth
5.7 and 6.1 Late Model Hemi	WP314	WP315	S,U	10.7 lbs.	6.75"

R=Red, B=Blue, S=Black, U=Polished, Ⓞ=Chrome, HD=Heavy Duty. When ordering please choose part #, color, and any options you prefer. For example **WP100RHD** would be a **Water Pump**, **100** series, **Red** color with **Heavy Duty** option. See our 'Water Pump Buyer's Guide' on pages 13-14 for more details.

300 Series

SB Mopar

Hemi

Water Pumps • Imports

Honda & Toyota



Kit

Kit includes 2 fittings for 1 1/4" diameter hose

These kits replace the OEM timing belt driven water pump with an idler pulley and block off plate. The pumping is performed by a remote pump spliced into the lower radiator hose. A bracket is supplied to mount the pump to the transaxle.

Installation of the idler plate is identical to shop manual instructions for water pump replacement. The job requires advanced knowledge to complete. **20 GPM Standard**

Kit Includes:

- Pump - WP136
- Idler plate w/ O-ring
- Toggle switch and crimp connectors
- Pump mounting bracket
- Hose adapter fittings



19T



22T



26T

Our idler

assemblies are used as a block off for the factory mechanical water pump and to maintain timing belt tension.

The idlers shown above are for reference. 19T is in kit WPK50019, 22T in kit WPK50022 & 26T in kit WPK50026.

Note: The supplied bracket is designed for applications with manual transmissions. No bracket available for automatic transmission.

Application	Kit Model	Weight (standard)
1.6/1.7/1.8 Type R	WPK50022	8.6 lbs.
1.8/2.0/2.1	WPK50019	8.6 lbs.
2.2/2.3	WPK50026	8.6 lbs.

The Toyota Supra model is one of our Bolt-On electric water pumps. The idler pulley allows the use of the factory or aftermarket accessories. Installation is nearly identical to that of the factory water pump and advanced technical knowledge is necessary. The mechanically driven fan is eliminated and requires an electric fan be installed.

Note: for 2JZ-GE engines some modifications may be necessary

- Hard anodized finish
- Quick cool-down
- Frees over 10 horse power
- Improves low speed cooling
- Low amp draw

Factory gasket and hardware required
Requires minor modification of the timing cover



WP520

35 GPM Standard

Application	Pump Model	Weight (standard)	Depth (standard)
'93-'98 Supra Turbo (2JZ)	WP520	4.6 lbs.	4.250"

Remote Water Pumps

Mini Inline & Bulkhead



WP136

20 GPM Single or Dual Outlet



-12 O-ring fittings

Designed for sport compacts, small engine applications and water to air intercoolers. The new dual outlet is well suited for alcohol powered drag cars. Many customers use it to replace existing inline pumps for increased reliability and performance. The pump may be small, but the quality and reliability is just what you have come to expect from Meziere.

Fittings shown are not included. See page 41.



WP137

360° INLET



A pair of -12 O-ring boss outlet fittings required. See page 41.

Pump Model	Weight (standard)	Height (standard)
WP136	6.3 lbs.	7.250"
WP137	6.4 lbs.	7.250"

Our original remote makes a very clean installation when mounted to the back side of a V-8 motor plate. All the plumbing faces forward, with a single 1" NPT inlet and two -12 O-ring boss outlets. No water manifold is required. It also sits nicely into a fender well or out-of-the-way spot to provide more clearance in front of your engine. One 1" NPT inlet and two -12 outlets required. See pages 40-41. Mounting bracket included.



WP116

35 GPM Standard or 42 GPM Heavy Duty



WP316

The high flow version of our bulkhead mount remote pump combines the same mounting features with a larger impeller and ports. This pump moves 55 gallons per minute. The inlet connection is -20AN and requires one of our WN style fittings. The two exit ports accept -12AN fittings. See pages 38-41 for fitting options. Mounting bracket included.

55 GPM Heavy Duty

Pump Model	Color	Additional Options	Weight (standard)	Weight (HD or 16)	Depth (standard)	Depth (HD or 16)
WP116	R, B, S, U, Ⓞ	HD	5.4 lbs.	6.4 lbs.	5.000"	5.500"
WP316	R, B, S, U, Ⓞ		6.3 lbs.	n/a	5.500"	n/a

R=Red, B=Blue, S=Black, U=Polished, Ⓞ=Chrome, HD=Heavy Duty. When ordering please choose part #, color, and any options you prefer. For example **WP100RHD** would be a **Water Pump**, **100** series, **Red** color with **Heavy Duty** option. See our 'Water Pump Buyer's Guide' on pages 13-14 for more details.

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Mini Inline

Bulkhead

Honda

Toyota

Remote Water Pumps

Hi-Flow Inline

Remote Water Pumps

Hi-Flow Inline & Mechanical

Hi-Flow Inline



WP336

Our most versatile pump design to date, combining an inline configuration with a 55 GPM flow rate and interchangeable fittings. Inlet and outlet ports are O-ring boss AN thread.

55 GPM Standard



Rear mount tab shown for WP336 and WP337.



WP337

"A pair of "WP16" fittings are required for outlet adapters.

"WN" style fittings are used for the inlet and the outlet.

Fittings shown are not included. See page 38-41.

- Smooth hose or AN line in and out
- Can be spliced into lower radiator hose

- 1.300 ID. inlet available
- Dual -16 outlet ports

Application	Pump Model	Weight (standard)	Depth (standard)	Inlet Port	Outlet Port
Single outlet	WP336	6.2 lbs.	5.200"	WN Style	WN Style
Dual outlet	WP337	6.2 lbs.	5.200"	WN Style	2X-16AN



WP365



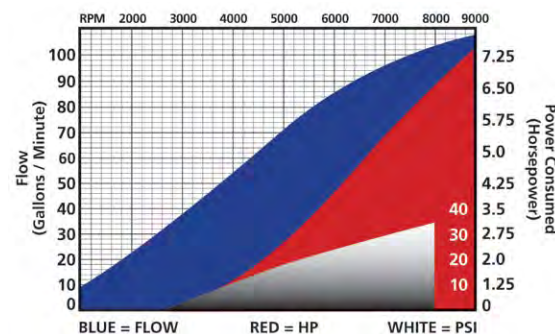
Our new design allows you the option of adding a true thermostat circuit to assist the warm-up cycle. This has proven a great benefit for engines with aluminum blocks. These engines tend to be built with tighter clearances which require engine heat to avoid excessive wear. The pump can be configured with a wide variety of hose choices by selecting the appropriate fittings for inlet, outlet and bypass.

Pump Model	Color	Weight (standard)	Depth (standard)
WP365 (Single out)	S,G	7.5 lbs.	8.3" (w/o fittings)
WP366 (Double out)	S,G	7.5 lbs.	8.3" (w/o fittings)

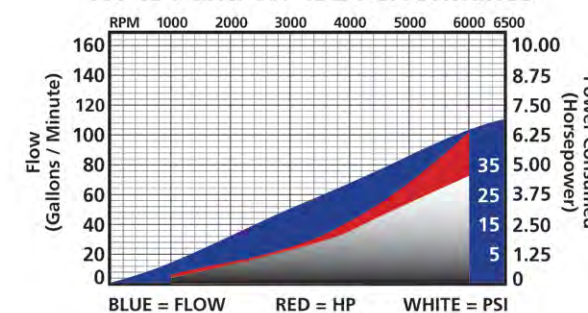
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WP430 and WPR430 Performance



WP431 and WP432 Performance



Where high pressure and flow of a mechanical pump is necessary, this problem solver mounts and drives like a dry sump oil pump. This configuration can reduce the overall length of an engine package. These pumps have been utilized in a wide range of vehicles including 24 hour endurance racers, street rods, Bonneville racers and V-8 motorcycles. **Refer to page 18 for performance graph.**

- All O-ring seals
- Variable inlet / outlet positioning in 45° increments
- 5/8" Keyed shaft



WP430 - Standard Rotation pump
WPR430 - Reverse Rotation pump

"WN" style fittings and 2 -12AN outlet fittings required. See page 38-41.



This pump uses the 4" impeller found in our ultra successful off road pumps for engines such as the small block Ford. It has been used for land speed as well as for off road custom vehicles to deliver elevated block pressure and flow performance necessary for high demand engines. Call us with your challenging application and let us help out!

- High performance bearing and seal
- Flanged pulley mount for common drive systems
- Single in, double out configuration
- Accepts our "WN" series fittings

WP431 - Standard Rotation pump
WP432 - Reverse Rotation pump

"WN" style fittings for the inlet and outlets required. See page 38-39.

Mechanical

w / Thermostat

Remote Water Pumps

Radiator Mount and Thermostatic

Radiators

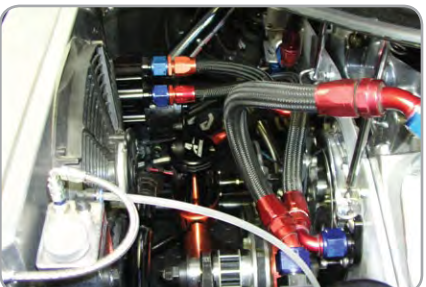
Racing and Street

Additive



If you want that extra bit of protection for your engine this Lucas product will do the trick. Adding to your cooling system you will gain protection from harmful buildup and you will notice better heat-dissipating properties. In short, your engine will cool better and last longer!

Part #
WS100



Radiator mounted pump in action



WP361



WP362

Save even more space

by mounting the pump directly into the radiator.

- Compact design
- Single or Dual outlet ports
- Can be fabricated into most aluminum radiators



WP3613



Helpful fittings available! See page 38-41 for our line of fittings to make your plumbing super clean.

Application	Pump Model	Flow Rate	Weight (standard)	Depth (standard)
Single outlet	WP161	20 GPM	6.4 lbs.	4.200"
Single outlet	WP361	55 GPM	6.2 lbs.	5.200"
Dual outlet	WP362	55 GPM	6.2 lbs.	5.200"

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Our aluminum radiators are built to the highest quality standards and have excellent heat dissipation characteristics. Our "off the shelf" standard part numbers cover a wide variety of racing and street performance applications.

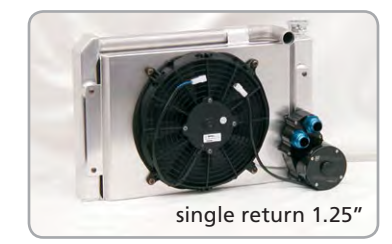
- High quality furnace brazed cores
- Fan & shroud included (except Sportsman*)
- Interchangeable O-ring boss fittings
- Sacrificial anode (optional)



WC0110



WC012016



single return 1.25"

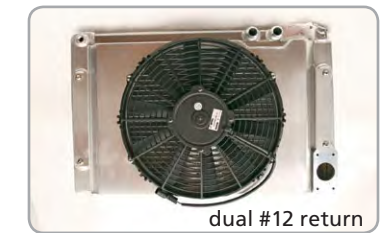
WC0310
(pump sold separately)



WC0120



WC0210



dual #12 return

WC0311

Application	Pump Model	Weight (standard)	Dimensions
Scirocco	WC0110	12 lbs.	25"Wx13"Hx6"D
Sportsman (w/o fan & shroud)	WC0120	10.5 lbs.	25"Wx16"Hx2 1/2"D
Sportsman (w/ fan & shroud)	WC012016	13 lbs.	25"Wx16"Hx6"D
Pro Stock single return	WC0310	12.5 lbs.	22"Wx14"Hx6"D
Pro Stock dual return	WC0311	12.5 lbs.	22"Wx14"Hx6"D
Dragster radiator	WC0210	13.2 lbs.	17.5"Wx22"Hx6"D



RFA125, RFA150, RFA175

These adapters can help convert a radiator that is configured for our radiator mounted pump back to a conventional arrangement.

Application	Part #	Color
1.25" Hose	RFA125	R,B,S,U,G
1.50" Hose	RFA150	R,B,S,U,G
1.75" Hose	RFA175	R,B,S,U,G
2.00" Hose	RFA20AN	R,B,S,U,G

Weld-in Waterneck

The filler neck is one of the most critical machined parts in the cooling system. Our weld-in filler neck is the highest quality available for upgrading an existing radiator or fabricating a new radiator. The sealing surfaces are machined with 5° tapers for a positive seal.

Application	Housing #
Standard	WN0012
Flush Mount	WN0012W



WN0012 & WN0012W

Radiators

Adapters

Waterneck

Billet Radiator caps add a little class to any cooling system. Features an easy grip profile to assist when installing or removing the cap.



Style	Description	Part #	Color
Logo	7 lb. cap	WCC00107	Chrome
Logo	16 lb. cap	WCC00116	Chrome
Racing	16 lb. cap	WCC00216	Chrome
Flames	16 lb. cap	WCC00316	Chrome
Fire & Dice	16 lb. cap	WCC00416	Chrome
Flag	16 lb. cap	WCC00516	Chrome
V8	16 lb. cap	WCC00616	Chrome

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AN



Fits AN Size	Fitting Model	Projection Distance
-10	WN0042	1.15
-12	WN0043	1.25
-16	WN0040	1.37
-20	WN0041	1.37
-24	WN0044	1.37

WN Style fitting colors:

When ordering please choose fitting model number then add the letter of the color you want that fitting to be: R=Red, B=Blue, S=Black, U=Polished, G=Chrome. For example **WN0031R** would be a **WN0031** fitting in **Red**.

Extended



Application	Fitting Model	Projection Distance
1 3/4" Hose	WN2033	3.6
2 1/4" Extension	WN2000	2.22

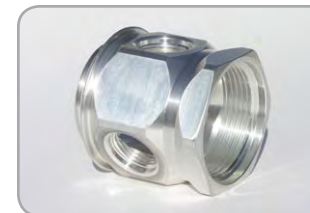


Inline thermostat housings can be a real problem solver. We offer a full line of components to get a thermostat into your upper radiator hose. Assembled length is 4" overall.

Part #	Description
WN0051	WN to 1 1/4"
WN0052	WN to 1 1/2"
WN0061	Weld-in to 1 1/4"
WN0062	Weld-in to 1 1/2"
WN0071	1 1/4" to 1 1/4"
WN0072	1 1/2" to 1 1/2"
WN0073	1 1/2" to 1 1/4"
WN0070160	160 Degree Tstat
WN0070170	170 Degree Tstat
WN0070180	180 Degree Tstat
WN0070195	195 Degree Tstat

Step 1:	Step 2:	Step 3:
Select the primary hookup.	Select the secondary hookup.	Select the thermostat rating.
-WN connection -1 1/4" hose -1 1/2" hose Weld-in connection	-1 1/4" hose -1 1/2" hose	-160 Degrees -185 Degrees -195 Degrees

Low Pressure Side Port for any of our WN style connections. Most commonly used to provide a low pressure port for heater plumbing. Has three -8AN side ports 120 degrees apart and is shipped with two plugs. Connection port sold separately.



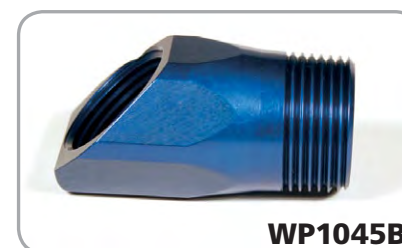
Fitting Model **WN0047**

When the space available simply will not allow a straight fitting you can still get the job done with our 90 degree outlet. It has a male WN thread on one side and a female o-ring thread on the other. It also comes with three shims of varying thickness to allow proper clocking.



Fitting Model **WN2090**

This 45 degree adapter will help when the damper or ignition parts interfere with the normal outlet position. Thread size is one inch pipe male and female.



Fitting Model **WP1045**
Overall Length **2.70**

Inlet to make secondary low pressure connections simple. This adapter has a 1" NPT thread on one end and a -12AN female thread in the other. All colors available.



Fitting Model **WP10F12**
Overall Length **2.20**

WN Style fittings -20AN fittings used for thermostat housings and some 300 Series pumps.

Smooth Hose



Fits Hose Ø	Fitting Model	Projection Distance
3/4"	WN0034	1.9"
1"	WN0035	1.9"
1 1/4"	WN0031	2.05"
1 1/2"	WN0032	2.05"
1 3/4"	WN0033	2.05"

WN Style fitting colors:

When ordering please choose fitting model number then add the letter of the color you want that fitting to be: R=Red, B=Blue, S=Black, U=Polished, G=Chrome. For example **WN0031R** would be a **WN0031** fitting in **Red**.

Adapter colors: When ordering please choose fitting model number then add the letter of the color you want that fitting to be: R=Red, B=Blue, S=Black, U=Polished, G=Chrome. For example **WP1125R** would be a **WP1125** fitting in **Red**.

Standard 1" NPT pump fittings for use with most of our 100 Series pumps.

Smooth Hose



Fits Hose Ø	Fitting Model	Overall Length
1 1/4"	WP1125	3.13
1 1/4"	WP1125STUB	1.99
1 1/2"	WP1150	3.13
1 3/4"	WP1175	3.13

AN



Fits AN Size	Fitting Model	Overall Length
-12	WP1012	3.13
-16	WP1016	3.13
-20	WP1020	3.13

Extended



Fits Hose Ø	Fitting Model	Overall Length
1 1/4"	WP2125	4.13
1 3/4"	WP2175	4.13
2" Extension	WP1000	3.25



Spanner Wrench

An easy way to install your fittings.

Part #
WPA010

NPT fitting colors: When ordering please choose fitting model number then add the letter of the color you want that fitting to be: R=Red, B=Blue, S=Black, U=Polished, C=Chrome. For example WP1125R would be a WP1125 fitting in Red.



If you are trying to get your LS-X pump hooked up using AN hose you have come to the right place. We offer two options to help you get the job done.

Part #	Hooks to AN
WPLS11716	-16
WPLS11720	-20

WA Fittings: These adapters allow you to make a clean transition from braided steel to slip-on hose. Commonly used to connect AN hose fittings to stock style radiators without fabrication.



AN Side	Hose Side		
	1 1/4"	1 1/2"	1 3/4"
-12	WA12125	WA12150	WA12175
-16	WA16125	WA16150	WA16175

-16AN pump fittings used for WP337, radiator mount WP362 and radiator outlets.

*-16AN are available in Blue or Black. Just add 'B' (for blue) or 'S' (for black) at the end of the part number. For example: WP16100B

Smooth Hose



Application	Fitting Model
1"	WP16100*
1 1/4"	WP16125*

AN



Application	Fitting Model
-12	WP16012*
-16	WP16016*

EXTENDED

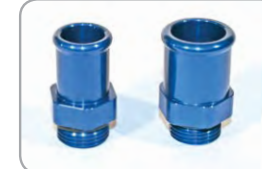


Application	Fitting Model
-12	WP16E12*
-16	WP16E16*

-12AN pump fittings used for WP136, WP116, WP316 and port adapters.

*-12AN are available in Blue or Black. Just add 'B' (for blue) or 'S' (for black) at the end of the part number. For example: WP10100B

Smooth Hose



App.	Fitting Model
1"	WP12100*
1 1/4"	WP12125*
1 1/2"	WP12150*
1 3/4"	WP12175*

Barbed Hose



App.	Fitting Model
5/8"	WP12058*
3/4"	WP12034*

AN



App.	Fitting Model
-08	WP12008*
-10	WP12010*
-12	WP12012*
-16	WP12016*

-08AN pump fittings used for expansion tanks, Chevy mechanical and some 300 Series pumps.

Barbed Hose



Application	Fitting Model
5/8"	WPM58
3/4"	WPM34

AN



Application	Fitting Model
-06	WPM06
-08	WPM08
-10	WPM10
-12	WPM12

-08AN fitting and plug colors:

When ordering please choose fitting or plug model number then add the letter of the color you want that fitting to be: R=Red, B=Blue, S=Black, U=Polished, C=Chrome. For example WPM58R would be a WPM58 fitting in Red.

Custom AN Plugs



Application	Fitting Model
-20	WN0045
-16	WP1600
-08	WPM900

NPT plugs



Application	Fitting Model
1/16" NPT	XRP-993201
1/8" NPT	XRP-993202
1/4" NPT	XRP-993203
3/8" NPT	XRP-993204
1/2" NPT	XRP-993205
3/4" NPT	XRP-993206
1" NPT*	WP1001*

*WP1001 is available in colors (Red, Blue, Black, Polished & Chrome).

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-16AN

-12AN

-08AN

Plugs

1" NPT

LS-X Options

WA Fittings

Thermostat Housings

Chevy, Mopar and Ford

Manifold Connections

Chevy, Mopar and Ford



WN0021DR

Low profile & clean is the perfect way to top off the manifold outlet on your Chevy engine. They complement and match your Meziere water pump.

- O-ring seal base
- Accepts thermostats
- Right or left outlets

Application	Housing #	Color
1 1/4" Dr. Side	WN0021D	R,B,S,U,G
1 1/4" Ps. Side	WN0021P	R,B,S,U,G
1 1/2" Dr. Side	WN0022D	R,B,S,U,G
1 1/2" Ps. Side	WN0022P	R,B,S,U,G



WN0020R

Swivel Neck A versatile solution for upper radiator hose connections, this neck swivels 360 degrees yet seals securely and will accept a variety of "WN" fittings.

- Double O-ring swivel
- O-ring seal base
- Accepts thermostats

Application	Housing #	Color
Chevy or BB Mopar	WN0020	R,B,S,U,G

Fittings are required. See page 37.



WN1022R

360° swivel design! Swivels 360 degrees for easy hose alignment. Integral 1.5" outlet hose connection. O-ring seal, no gasket required.

Application	Housing #	Color
SB & BB Chevy or BB Mopar	WN1022	R,B,S,U



WN0023

SB Ford Waterneck This billet neck provides for the stock bypass hose and will accept a thermostat. A plug is also supplied for eliminating the bypass.

Application	Housing #	Color
SB	WN0023	R,B,S,U,G



WN0019B

For the LS-1 engine we offer two solutions, this is the billet alternative for the stock inlet housing. See below for our "straight out" design. Outlet size is 1.5"

Application	Housing #	Color
GM LS-1	WN0019	R,B,S,U,G



WN0039S

WN0039 This is our "straight out" design to simplify some aftermarket applications. For our billet solution see above. **Will not work with factory OEM style thermostat.**

Application	Housing #	Color
GM LS-1	WN0039	R,B,S,U,G

Fittings are required. See page 37.



WN1019

Made specifically to assist the installation of our mechanical WP419 pump for LS engines. Provides proper retention of the OEM style thermostat and accepts any of our WN style fittings to connect your lower hose.

Application	Housing #
GM LS-X	WN1019



WN1122B

360°swivel with side ports provides a quick and clean connection for auxiliary lines. Swivels 360° for easy hose alignment. Side ports #6AN o-ring boss both sides. Outlet size is 1.5"

Application	Housing #	Color
SB & BB Chevy or BB Mopar	WN1122	R,B,S,U,G

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WN0912R

AN Style manifold plates provide a simple connection for your braided hose.

Application	Housing #	Connection	Color
Chevy or BB Mopar	WN0912	-12AN	R,B,S,U,G
Chevy or BB Mopar	WN0916	-16AN	R,B,S,U,G
BB Ford	WN0812	-12AN	R,B,S,U,G
BB Ford	WN0816	-16AN	R,B,S,U,G



WN1916R

Higher flow applications can make use of this plate featuring #16AN upper hose connection and has two #6AN side ports.

Application	Housing #	Color
Chevy or BB Mopar	WN1916	R,B,S,U,G



WN0007U

Manifold plate options. We also offer simple thermostat housing plates, blockoffs and NPT ported plates.

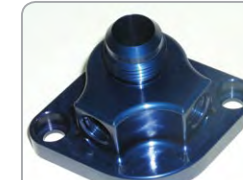
Application	Housing #	Color
Chevy or BB Mopar	WN0007	R,B,S,U,G



WN0028B

Waterneck Spacer will fit under any Chevy or BB Mopar neck. It is 1" thick with two side ports which are tapped 3/8" NPT.

Description	Housing #	Color
Spacer with 2 3/8" NPT side ports	WN0028	R,B,S,U,G



WN1912B

Complex connections made easy! This manifold plate features a #12AN upper hose connection and has two #6AN side ports necessary for auxiliary plumbing.

Application	Housing #	Color
Chevy or BB Mopar	WN1912	R,B,S,U



WN0029R

Mopar Style Accepts WN fittings from -10 thru -24 or from 1 1/4" to 1 3/4" Fittings are not included. Works with factory thermostat. See page 37.

Application	Housing #	Color
BBM	WN0029	R,B,S,U,G
SBM	WN0030	R,B,S,U,G



WN0008R

Blockoff Cap with 3/4" NPT Internal thread. Fittings not included.

Application	Housing #	Color
Chevy or BB Mopar	WN0008	R,B,S,U,G



WN1028U

Waterneck Spacer same as our waterneck spacer to the left, but this one has two -8AN o-ring side ports.

Application	Housing #	Color
Spacer with 2 -8AN o-ring side ports	WN1028	R,B,S,U,G

Block Adapters / Spacers

Chevy, Mopar and Ford

Block Adapters / Spacers

Chevy, Mopar and Ford

Female threaded block adapters

to complete systems that are using our radiator mounted or remote mounted pumps. They are sold in pairs, one each of driver and passenger side plates where applicable. Hardware included where applicable.



Application	Adapter Model	Color	Internal Thread Type	Recommended Fitting
Big Block Chevy	WP80	R,B,S,U,Ⓞ	3/4" NPT	WP6112 (2x)
Small Block Chevy	WP81	R,B,S,U,Ⓞ	3/4" NPT	WP6112 (2x)
DRCE - Olds Pro Stock	WP86	S,U	3/4" NPT	WP6112 (2x)
GM LS-1	WP89	U,Ⓞ	-12AN	WP12012 (4x)
Big Block Mopar	WP84	R,B,S,U,Ⓞ	-12AN	WP12012 (4x)

Male AN block plates

are the perfect way to make the connection to the front of the engine when using a remote or radiator mounted pump. They are sold in pairs and are delivered to you with the required O-rings and hardware.



Application	Adapter Model	Color	External Thread Type
Big Block Chevy	WP8012AN	R,B,S,U,Ⓞ	-12AN Male
Big Block Chevy	WP8016AN	R,B,S,U,Ⓞ	-16AN Male
Small Block Chevy	WP8112AN	R,B,S,U,Ⓞ	-12AN Male
Small Block Chevy	WP8116AN	R,B,S,U,Ⓞ	-16AN Male
DRCE - Olds Pro Stock	WP8612AN	R,B,S,U,Ⓞ	-12AN Male
DRCE - Olds Pro Stock	WP8616AN	R,B,S,U,Ⓞ	-16AN Male
Hemi	WP8716AN	S,U,	-16AN Male

Late model Hemi adapters

allow you to connect a remote mounted pump. Five components are necessary and are sold individually. To complete the engine connection you'll need a back plate (pictured), pair of block adapters (pictured), WN Style fitting for the upper connection (see pages 38&39) and two #16AN fittings (see page 41) for the lower connections.



Application	Description	Part#	Color	Hose Connection Thread Type
Late Model Hemi	Back Plate	WP315	R,B,S,U,Ⓞ	WN Style
Late Model Hemi	Block Adapters	WP8716AN	R,B,S,U,Ⓞ	-16AN



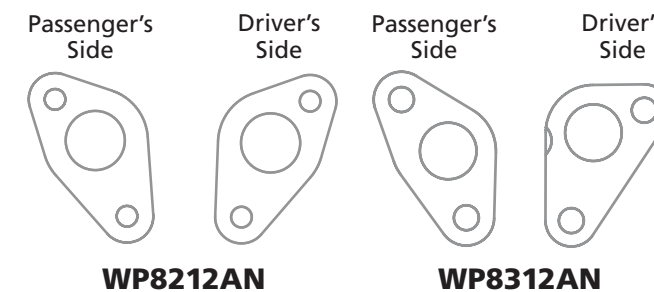
Application	Model #	Color	Thickness	O-ring
BB Ford	WPS108-.50	R,B,S,U,Ⓞ	.5"	1 side
SB Ford 5.0 & Windsor	WPS111	R,B,S,U,Ⓞ	.9"	none
SB Ford '94-'95 & Belt Drive	WPS173	R,B,S,U,Ⓞ	.9"	1 side

R=Red, B=Blue, S=Black, U=Polished, Ⓞ=Chrome. When ordering please choose part # then color. For example **WN0014R** would be a **WN0014** housing in **Red**.

Our Ford adapters and Water Necks round out the accessories needed to keep your cooling system functional and beautiful. **Items sold per pair.**



Application	Adapter #	Color	Thread
Traditional 289 / 5.0 / Windsor	WP83	R,B,S,U,Ⓞ	3/4" internal
Traditional 289 / 5.0 / Windsor	WP8312AN	R,B,S,U,Ⓞ	-12AN external
'94-'95 Short Style	WP8212AN	R,B,S,U,Ⓞ	-12AN external
'94-'95 Short Style	WP8216AN	R,B,S,U,Ⓞ	-16AN external
BB Ford	WP8812AN	R,B,S,U,Ⓞ	-12AN external
BB Ford	WP8816AN	R,B,S,U,Ⓞ	-16AN external



Ordering your part in a specific color: When ordering please choose plate or adapter model number then add the letter of the color you want that part to be: R=Red, B=Blue, S=Black, U=Polished, Ⓞ=Chrome. For example **WP83R** would be a **WP83** adapter in **Red**.

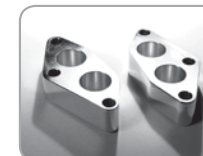
"Yates / Jessel / Danny B and similar belt drives require the late model '94-'95 spacers or block adapters."

Chevy spacers



Application	Model #	Color	Thickness	O-ring
BB Chevy	WPS100	R,B,S,U,Ⓞ	.9"	2 sides
BB Chevy	WPS100-.500	R,B,S,U,Ⓞ	.5"	none
BB Chevy	WPS100-1.500	R,B,S,U,Ⓞ	1.5"	2 sides
BB Chevy	WPS100-1.750	R,B,S,U,Ⓞ	1.75"	2 sides
SB Chevy	WPS101	R,B,S,U,Ⓞ	.9"	none
SB Chevy	WPS101-.500	R,B,S,U,Ⓞ	.5"	none
SB Chevy	WPS101-1.500	R,B,S,U,Ⓞ	1.5"	none

Mopar spacers



Application	Model #	Color	Thickness	O-ring
SB Mopar	WPS114	R,B,S,U,Ⓞ	2.25"	none
BB Mopar	WPS106	R,B,S,U,Ⓞ	.9"	none

GM spacers



Application	Model #	Color	Thickness	O-ring
DRCE	WPS110	R,B,S,U,Ⓞ	.9"	2 sides
DRCE	WPS110-.500	R,B,S,U,Ⓞ	.5"	2 sides
DRCE	WPS110-1.500	R,B,S,U,Ⓞ	1.5"	2 sides

LS spacers



Application	Model #	Color	Thickness	O-ring
LS1 thru LS9	WPS119-1.75	U,S	1.75"	none
LS1 thru LS9	WPS119-.465	U,S	0.465"	none

R=Red, B=Blue, S=Black, U=Polished, Ⓞ=Chrome. When ordering please choose part # then color. For example **WP8312ANB** would be a **WP8312AN** adapter in **Blue**.

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WAM12AN

Use "WN" style fittings and -12 "WP" fittings. See page 38-41.

Manifold #	Color
WAM12AN	R,B,S,U
WAM12ANP	R,B,S,U

Y-manifold

Another problem solver we offer is our O-ring boss port Y-manifold. This part accepts fittings to connect AN lines from -08 to -20 or hose from 5/8" to 1 3/4". Part is available with or without #6 ports on the back.

There are 2 ports to accept -12AN O-ring fittings and one port to accept a WN style fitting.

Water manifold

This clean billet manifold gets a single source distributed to both banks of your Big Block Chevy. The mating surface is grooved for a positive o-ring seal and it is designed to accept -20AN fittings. Available in chrome or polished finish.



WAM10020

A highly effective and lightweight solution for

connecting four input sources to one outlet source is this four into one water manifold. They are aluminum, CNC machined and ready to connect in a variety of configurations.

Part #	Description	Inlet	Outlet
WAM401	4 to 1 adapter	-12AN	1.5" hose
WAM402	4 to 1 adapter	3/4 Wiggins	1.5" hose



WAM401

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WR100R

Recovery Tank

Reduce aeration and maintain pressure. Designed to catch overflow liquid and purge air out of your system during heat cycles.

- 1/8" NPT ports
- O-Ring seal cap

Capacity	Housing #	Color	Dimensions
22 oz.	WR100	R,B,S,U,G	10"H x 2"W x 3"D

For more tank information see page 59.



WE100

Expansion Tank

The most effective method to complete your cooling system that requires a remote fill and expansion area. Ensures leak-free operation. Accepts any standard radiator cap.

- -08 O-ring boss outlet
- 2 - 1/4" NPT inlets
- CNC waterneck

Capacity	Housing #	Color	Dimensions
22 oz.	WE100	R,B,S,U,G	10"H x 2"W x 3"D

R=Red, B=Blue, S=Black, U=Polished, G=Chrome. When ordering please choose part # then color. For example **WR100R** would be a **WR100** recovery tank in **Red**.



MSP0010

This fuel pump blockoff will

prove itself a reliable solution. A clean and effective solution, this plate incorporates an o-ring groove designed to "grip" the o-ring and comes with stainless fasteners.

Description	Part #
Fits Chevrolet blocks	MSP0010



MSP0038



MSP0039

One more item to make your engine project easier to complete, this mount is made to bolt to traditional big block Chevrolet heads and mount you ignition coil. They come in black with clear anodized spacers and hardware.

Part #	Fits Coil#	Fits Cylinder Head
MSP0038	8261	BB Chevy
MSP0039	8201	BB Chevy



WTO100

Transmission Overflow Tank

Our unique design offers all of the best options for a clean and effective transmission overflow tank. Each end has two 1/8NPT ports for hose connection, venting and drain. The 3" diameter body can be easily mounted by using a standard bottle clamp or by using the supplied bracket. The versatile and lightweight bracket is designed to fit on any of the four transmission pan rails (back, front or sides). This gem weights in at a trim 1.25 lbs.

Tank #	Color	Capacity	Weight
WTO100	S,G	25 oz.	1.25lbs

Transmission Cooling

Billet Heat Exchange System

Weld-in Products

Cap and Bung (AN & NPT)

Revolutionary cooling for your Transmission

Our next step in product development has been to address the problem of excessive transmission heat. By applying what we have learned by our extensive knowledge of cooling systems, we have created a new method of cooling transmission fluid as well as preheating it to a suitable level before each run. This new deep transmission pan for powerglide transmissions acts as a fluid temperature stabilizer and offers more consistent temperature for more consistent runs. Our testing data shows that the warmup cycle of the engine raised the transmission to within 15 degrees of engine temperature. That is, when exiting the staging lanes with an engine temperature of 165°F, the observed transmission temperature was 150°F. Likewise, on the cooldown cycle our data showed that the transmission fluid would drop temperature within 10 degrees of the engine. That is, the observed engine temperature at the end of the run was 205°F and the transmission was 215°F. The transmission quickly dropped to within 5 degrees of engine temp and followed the coolant temp all the way to 150°F.

- Fully Machined Pan Rail
- Fully Machined Heat Exchange
- Billet 6061 Aluminum



WP155



Close-up of pressure port



WTP300



O-ring groove in fully machined pan rail

-6 AN inlet / outlet on pan

Transmission-ready Water Pumps

Application	Pump Model	Color	Options
Chevy BBC Standard	WT100	R,B,S,U,☒	HD
Chevy BBC Reservoir	WT200	R,B,S,U,☒	HD
Chevy BBC High Flow	WT300	R,B,S,U,☒	

Description	Part #
Powerglide Trans Pan with Heat Transfer Passage	WTP300
Water pump center section with high pressure port	WP155
Water pump center section with high pressure port	WP355
Powerglide Trans Pan w/Heat Transfer Passage/ Quick disconnect option	WTP301
Replacement o-ring seal	WPG300



Additional information

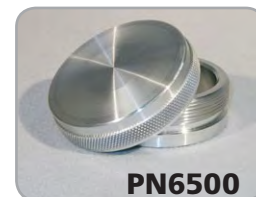
Comes with filter spacer
To connect trans pan fits most 100 series pumps
To connect trans pan fits most 300 series pumps
Comes with filter spacer

Pan rail o-ring

Cap and Bung assemblies are sold as shown with an aluminum cap and your choice of steel or aluminum bung. These assemblies are commonly used on valve covers, oil pans, differentials, and fuel tanks.



PN6550



PN6500



PN6700

6700 Alternate Styles



PN6710

PN6720

PN6730

Size	Aluminum	Steel	Stainless Steel	Thread
1.75"	PN6550	PN6551	PN6552	1.312" - 12
2.5"	PN6500	PN6501		2.500" - 20
2.5" Pro	PN6700	PN6701		2.250" - 6
2.5" Pro	PN6710	PN6711		2.250" - 6
2.5" Pro	PN6720	PN6721		2.250" - 6
2.5" Pro	PN6730	PN6731		2.250" - 6

These Female AN are the next evolution of our bungs for SAE O-ring boss. Features include a low profile and a thick weld land to reduce warp. They offer a more positive seal than pipe thread.

Size	Thread Size	Aluminum	Steel	Stainless Steel
-06	9/16" - 18	WF06FA	WF06FS	WF06FN
-08	3/4" - 16	WF08FA	WF08FS	WF08FN
-10	7/8" - 14	WF10FA	WF10FS	WF10FN
-12	1 1/16" - 12	WF12FA	WF12FS	WF12FN
-16	1 5/16" - 12	WF16FA	n/a	n/a
-20	1 5/8" - 12	WF20FA	n/a	n/a
-32	2 1/2" - 12	WF32FA	n/a	n/a



These Male AN adapters are machined to register easily and seal perfectly. The high quality finish makes welding easy.

Size	Thread Size	Aluminum	Steel	Stainless Steel
-06	9/16" - 18	WF06MA	WF06MS	WF06MN
-08	3/4" - 16	WF08MA	WF08MS	WF08MN
-10	7/8" - 14	WF10MA	WF10MS	WF10MN
-12	1 1/16" - 12	WF12MA	WF12MS	WF12MN
-16	1 5/16" - 12	WF16MA	n/a	n/a
-20	1 5/8" - 12	WF20MA	n/a	n/a
-24	1 7/8" - 12	WF24MA	n/a	n/a



NPT fittings continue to expand our line, and we now offer these bungs for NPT weld in bosses. These parts are cut from billet for superior integrity.

Size	Aluminum	Steel	Stainless Steel
1/8"	WF18PFA	n/a	n/a
1/4"	WF14PFA	n/a	n/a
3/8"	WF38PFA	WF38PFS	WF38PFN
1/2"	WF12PFA	WF12PFS	n/a
3/4"	WF34PFA	WF34PFS	WF34PFN
1"	WF10PFA	WF10PFS	n/a
1 1/2"	WF112PFA	n/a	n/a



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Female AN

Male AN

NPT

Transmission Cooling

Assemblies

Fabrication Assistance

Ends, Adapters, Bushings & Clevises

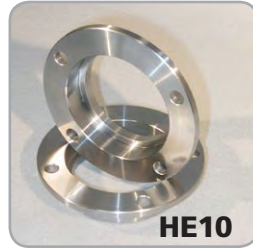
Fabrication Assistance

Clevises and Safety Washers

Housing Ends

Our Housing Ends are made from premium tubing, unlike many on the market that are cast or flame cut from plate steel. Precision CNC machining from top quality material provides the best fit and allows for hotter, stronger welds resulting in a safer, more reliable finished product.

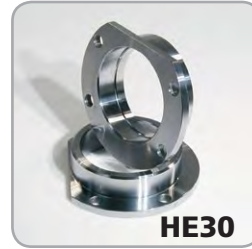
Application	Part #
Olds/Pontiac	HE10
Olds/Pontiac (tapped & scalloped)	HE50
Large Ford	HE20
Large Ford (symmetrical)	HE60
Small Ford	HE30
Mopar	HE40



HE10



HE20



HE30



HE40



HE50



HE60

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Rack & Pinion

Designed for Mustang II and Pinto style non-power rack and pinion steering boxes. Part # RP01 will slide over a 3/4" shaft and the part # RP02 slips into 3/4" I.D. tubing. Made from 4130 alloy.

Application	Part #
26 spline 3/4" I.D.	RP01
26 spline 3/4" O.D.	RP02



4130 alloy

Mis-alignment Bushings

Our line of chassis components now includes mis-alignment bushings made from 4130 alloy steel. They provide a safer means of mounting a spherical rod end with a high angle of incidence.

HEIM Size	Bolt Size	Part #
5/8"	1/2"	MB6250
3/4"	1/2"	MB7550
3/4"	5/8"	MB7562
7/8"	5/8"	MB8762
1"	3/4"	MB1075



Contour Clevises



Inline and Perpendicular

Application	Tube Size	Bolt Size	Slot Width	Part #
Inline	1 1/4"	3/8"	3/4"	CC123775I
Perpendicular	1 1/4"	3/8"	3/4"	CC123775P
Inline	1 1/2"	3/8"	3/4"	CC153775I
Perpendicular	1 1/2"	3/8"	3/4"	CC153775P
Inline	1 5/8"	3/8"	3/4"	CC163775I
Perpendicular	1 5/8"	3/8"	3/4"	CC163775P

Weld-in Clevises

Tube Size	3/16" Bolt	1/4" Bolt	5/16" Bolt	3/8" Bolt		1/2" Bolt
	Slot Width	1/8"	3/16"	1/4"	5/16"	3/8"
5/16 x .058	CE51					
3/8 x .058	CE38					
1/2 x .058		CE12				
5/8 x .058			CE58			
3/4 x .058			CE34	CE35		
	7/8 x .058			CE78		
	1 x .058			CE10	CE11	CE15
		1-1/8 x .058		CE17	CE14	
		1-1/8 x .083			CE13	
		1-1/4 x .058			CE16	
		1-1/2 x .120				CE21



Our line of 4130 alloy **weld-in clevises** are another useful machined product for the professional or amateur fabricator. They are available for a variety of tube sizes, wall thicknesses and cross bolt sizes. They are finished with the quality and care that is a part of every one of our products. Typical applications include: wheelie bars, wing struts or supports, seat mounts, battery mounts, parachute mounts, and many other mounting needs.

Threaded Clevises



Left Hand	Right Hand	Thread Size	Bolt Size	Slot Size	
TC1032L	TC1032	10-32	3/16	1/8	303 Stainless
TC1428L	TC1428	1/4-28	3/16	1/8	
TC3824L	TC3824	3/8-24	5/16	3/16	4130 Alloy
TC1220L	TC1220	1/2-20	3/8	1/4	

• zinc plated (zinc plating on 3/8 and 1/2 only) • rolled threads
Our large **threaded clevises** are made durable with 4130 alloy. We roll the threads for a stronger and better fit. The small clevises are made from stainless steel with a rounded slot base for additional strength. These parts make fabrication easy.

Safety Washers



Bolt Size	Alloy	Stainless	Aluminum
	#10	SW10A	SW10S
1/4	SW14A	SW14S	SW14L
5/16	SW51A	SW51S	SW51L
3/8	SW38A	SW38S	SW38L
7/16	SW71A	SW71S	SW71L
1/2	SW12A	SW12S	SW12L
5/8	SW58A	SW58S	SW58L
3/4	SW34A	SW34S	SW34L

These **safety washers** are mandated by some sanctioning bodies such as SCCA and SCTA to retain spherical rod ends in the event of a failure. Although designed as a safety measure, the added range of motion they provide makes them ideal for many applications like linkages or bump steer adjusters.

Fabrication Assistance

4130 Alloy Threaded Tube Ends

Fabrication Assistance

Chassis Tabs

Threaded Tube Ends

Tube Size	Thread Size									
	10-32	1/4-28	5/16-24	3/8-24	7/16-20	1/2-20	5/8-18	3/4-16	7/8-14	1-12
3/8 x .058	RE1009AAA									
1/2 x .058		RE1010AA	RE1010A							
5/8 x .058			RE1011A	RE1011B						
3/4 x .058			RE1012A	RE1012B	RE1012C					
			RE1013A	RE1013B	RE1013C					
7/8 x .058				RE1014B	RE1014C	RE1014D				
				RE1015B	RE1015C	RE1015D				
				RE1016B	RE1016C	RE1016D				
1 x .058							RE1017E			
							RE1018E			
							RE1019E			
							RE1020E			
1 x .065										
1 x .083										
1 x .095										
1 1/8 x .058					RE1125D					
1 1/8 x .083					RE1021D	RE1021E				
1 1/8 x .095					RE1022D	RE1022E	RE1022F			
1 1/4 x .058					RE1124D*	RE1124E*	RE1124F*			
1 1/4 x .065						RE1023E*	RE1023F*			
1 1/4 x .095					RE1024D*	RE1024E*	RE1024F*			
1 1/4 x .120					RE1025D*	RE1025E*	RE1025F*			
1 3/8 x .095					RE1026E*	RE1026F*				
1 3/8 x .120						RE1028F*	RE1028G*			
1 1/2 x .120						RE1030F*	RE1030G*	RE1030H*		
1 1/2 x .065					RE1032E*					
1 5/8 x .083						RE1034F*	RE1034G*			
1 3/4 x .120										RE1036H*



(*) Indicates hex on left hand threaded parts.

Monster Truck tube end: Part# RE1036J has 1 1/4" thread and fits 1 3/4" x .120" wall tube.

IMPORTANT! For left hand threads add an 'L' to the end of the part number. (Example: RE1017DL)

Our Threaded Tube Ends have been the choice of the nation's top chassis builders for years. The strength, consistency, and finish quality are unmatched.



Shown in use with front A-arm suspension.



Shown in use with 4 link rear suspension.

Chassis builders note: If you have a need for a particular tab for your application please call us. Our manufacturing is done in-house and we can respond quickly to your needs.

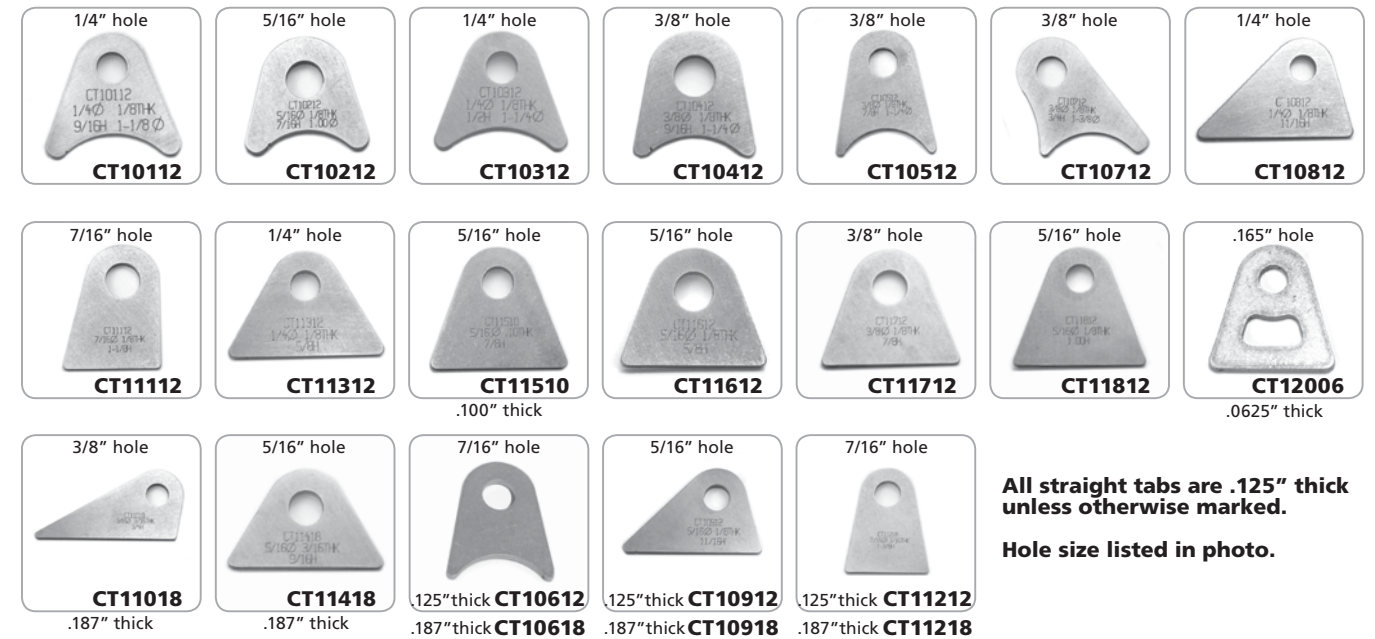
Bent tabs provide a stronger platform to build from. The integral gusset provides extra stability. All bent tabs are .125" thick.



Made from 4130 and cut not "punched" to size. This makes these tabs stronger and perfect every time.

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All straight tabs are .125" thick unless otherwise marked. Hole size listed in photo.



This bracket is designed to mount any of our electric remote pumps. It is 4130 material and is .090 thick with two bent flanges for better strength and rigidity.

Part #
WP85

Bent Tabs

Flat Tabs

Remote Pump Mount

Meziere Swag

Hoodies, T-shirts and more

Cooling System

Cooling System Principles

Hoodies

Hey, it's a hoodie...you've seen them before. This one happens to have the Meziere logo on the front and a custom graphic on the back. Wear with pride. Hoodies offered in black only, sizes are Large and XL only.



front



back



Back inprint enlarged

Size	Part #
LG	RA815
XL	RA816

Hey, it's a t-shirt...just like the hoodie but in t-shirt form. T-shirts offered in grey and black. Meziere logo on left chest and custom graphic on back.



front



back

Black Shirts

Size	Part #
XXXL	RA708
XXL	RA707
XL	RA706
LG	RA705
MED	RA704
SML	RA703

Grey Shirts

Size	Part #
XXXL	RA714
XXL	RA713
XL	RA712
LG	RA711
MED	RA710
SML	RA709

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T Shirts

Hats



High end headwear! Whether you're at Pomona or Bonneville this will keep the sun off your noggin in style.

Part #
RA800

Cooling System Principles

All the best aftermarket parts used the wrong way can be less effective than the factory system. In the search for cooling knowledge, it is found that the topic of cooling systems is left out of most books on automotive high-performance. The next few paragraphs will give you a better understanding of how to properly design a cooling system for your vehicle. The following information comes from well known engine builders and our personal experience.

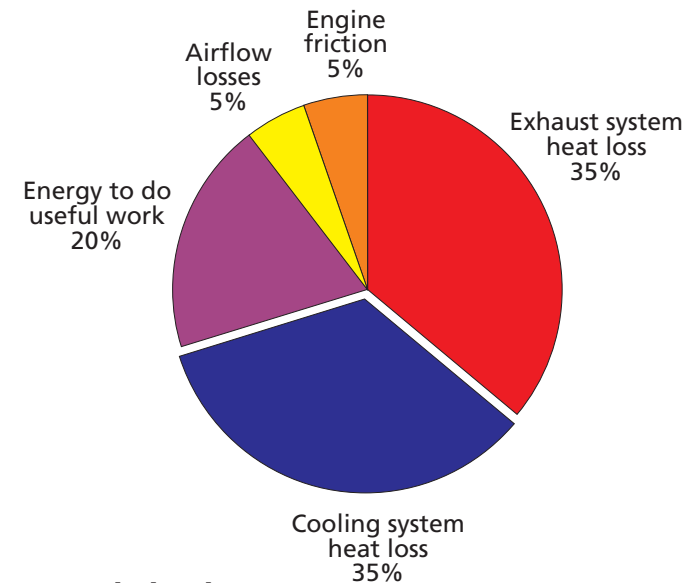
Engine Tune

Engine tune can be one of the greatest factors in water and oil temperature. A lean mixture (air/fuel) and/or retarded timing situation will make heat quickly. Lean mixtures burn hot causing detonation and pre-ignition. Retarded timing makes the engine labor to compress the air/fuel mixture. The engine fires well after TDC at a reduced compression ratio. Exhaust valve timing or exhaust restriction will hold heat in the engine raising water temperature. These conditions also affect oil temperature through the cylinder heads and pistons.

The Big Five

With the engine tune problems eliminated it comes down to five major factors. They are:

1. Heat production (BTUs / HP)
2. Radiator Capacity (heat dissipation)
3. Air Flow
4. Water Flow
5. Pump & System Pressure



BTUs

Using a little science and math you can convert your horsepower to BTUs (heat). A horsepower/min. is equal to 42.44 BTU. One third of that heat goes into the water and must be dissipated by the radiator. When calculating radiator capacity you only need to consider the horsepower you're using continuously, not the amount your engine is capable of producing. For example, a 500 hp stock car will need much more cooling capacity than a 850 hp dragster. The stock car's engine RPM will cycle above and below peak horsepower twice a lap, heat soaking the cooling system with 180,000 BTU in a ten-minute event. The dragster, in one round, might idle less than ten minutes and make an 8 second run at a 750 horsepower average. Running 10 seconds at full throttle the dragster would release about 6,000 BTU. In the case of the dragster, the system must be adequate enough to prevent detonation under power and maintain temperature at idle.

Heat Dissipation

Radiator capacity, in this case, refers to the amount of heat it can dissipate; not the amount of coolant it holds. Due to the various designs and materials used in radiators today, you cannot judge them on size alone. In the past, all radiators were made from copper and brass. Copper was the obvious choice for the cooling fins because of its superior heat dissipation. The problem was that the solder used to join the two materials reduced the amount of heat that could be transferred to the copper. In the last ten or fifteen years aluminum has become the material of choice for racing and original equipment radiators. The major design changes have been the switch from 1/2 - 3/4 inch wide tubes to 1" - 1 1/2" wide tubes and the use of double pass tanks. The wider tubes have more surface area and therefore more heat dissipation. Dual pass designs force the water to travel the length of the radiator twice, increasing the amount of temperature drop capable for a given size, unfortunately the restriction is much more than doubled. Surface area is king when it comes to radiators. Doubling the square inch of your radiator will double the heat dissipation, whereas doubling the thickness is less effective and restricts air flow.

Cooling System Principles

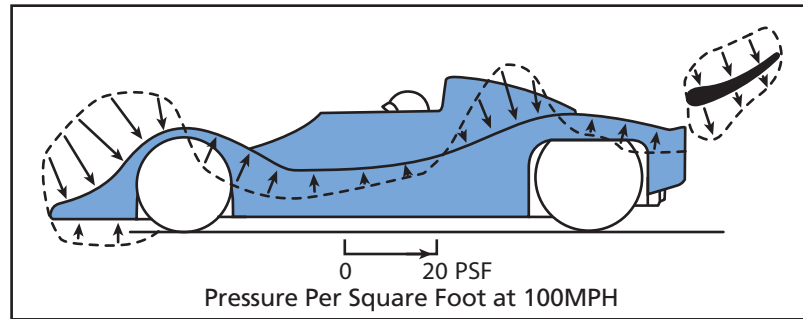
Heat Dissipation (cont.)

Other factors that play a role in radiator design are fin count per inch and configuration such as down flow (top tank) or cross flow (side tanks). Inlet and outlet size also play a major role.

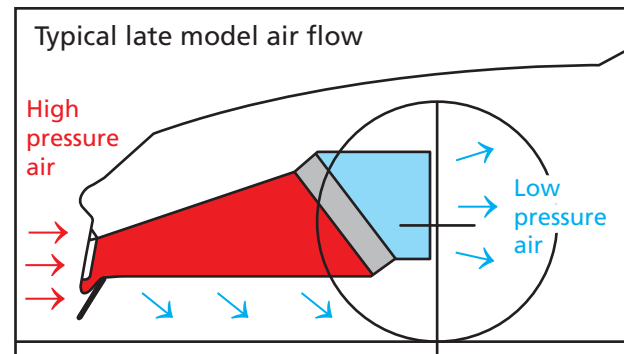
Coolants will vary in heat transfer characteristics. Straight water is accepted as the most efficient coolant. A trade-off is usually made with glycol-based products to increase the boiling point, lubricate the pump seal, reduce corrosion, and prevent freezing. Some sanctioning bodies do not allow glycol-based coolants because of obvious track clean-up problems. In these cases, use an anti-corrosion / seal conditioner additive available from any auto parts store. Many new coolants and additives are available. We suggest you do some research because many have merit, but some are more marketing than science.

Air Flow

Air flow is the most critical factor in water to air radiated systems. Nothing affects a radiator's efficiency more than air flow. The speed of a vehicle is normally considered when choosing a radiator. Winston Cup teams use different radiators for different situations (full size radiators for short tracks and smaller radiators for super speedways). Maintaining adequate air flow at various speeds is critical and more complex than you might think. First, the radiator must be supplied with fresh air. **The grill opening or air inlet can make all the difference.** Ideally it should be facing squarely into the wind. Looking at the illustration you can see the closer to perpendicular to the ground a surface is, the higher the pressure or down-force. Due to the reduced frontal area of late model vehicles, the valance area becomes the only surface with enough air pressure to provide adequate air flow. Scoops, bills, deflectors and recessed screens can be used to improve less than ideal surfaces. **The size of an opening should be proportional to the vehicle speed.** A Winston Cup car running laps at 180 MPH will run cool with less than a 6" x 6" opening. A short track late model with half the HP, the same body and an average speed of 90 MPH will require about a 6" x 24" opening.



Continuous duty race cars (stock car, sports cars, rally, etc.) should have a well-designed air box to feed the radiator. The air box needs to be tightly sealed to force all the inducted air through the radiator. This also keeps the incoming air from mixing with air already heated by the engine. To maintain velocity, the air box should slowly graduate from the inlet to the size of the radiator, avoiding bottle necks and the floor should be level or slope up to the radiator.



The fan is the next consideration. **At speeds under 30 MPH, electric fans are most effective** because they operate independent of engine RPM supplying maximum air flow at low vehicle speed when you need it the most. **Above 35 MPH (with a good grill opening and/or air box) fans are not necessary** and in most cases more air will pass through an electric fan when turned off. Most electric fans have an integral shroud to maximize efficiency, but without being incorporated into a shroud covering the entire radiator core, they will only pull air through the area directly in front of the blade circle. A minimum 1" gap between the core and the shroud is necessary for proper air flow. **In some cases trap doors must be used to relieve back pressure** (see next paragraph). Engine driven fans also must be properly shrouded to be effective. This means tightly sealed to the radiator with half the fan blade into the opening of the shroud. The fan should have no more than 1" clearance to the shroud (15" fan /17" opening). Some stock type engine driven fans can reach blade stall at high RPM. This means it becomes like a wall stopping air from passing through it.

Air Flow (cont.)

The radiator transfers heat to air as it passes through the core. For proper function, the air stream must be under high pressure at the front side of the radiator and lower pressure behind. This pressure differential drives the fresh air past the fins. If air pressure builds up in the fan shroud or the engine compartment and the difference in pressure is decreased, air flow across the radiator can stall. Therefore, thoughtful planning should be done to consider both "at rest" and "at speed" conditions and how fresh air can be presented to the radiator effectively in both situations. In a case where an electric fan has been installed with a shroud that covers the entire radiator core, rubber or mechanical trap doors can be incorporated. These automatically close when "at rest" to seal the shroud and move the most air by preventing bypass. They also open when "at speed" allowing more air flow and preventing the shroud from damming air. The engine compartment must also be able to maintain a pressure differential as the vehicle speed increases. Auto makers will use an air dam to increase the air pressure at the radiator inlet and block air from passing under the car, creating a low pressure or ground effect. Many owners of lowered cars have found out the hard way just how effective this technique is after removing the factory air dam and running into unexpected problems.

Water Flow

Many times water flow is the last aspect of the cooling system to be addressed. Ironically, it is also where the majority of problems lie. This is our focus at Meziere. The typical stock water pump has excessive clearance and straight impeller blades, usually open front and back. At low rpm this produces little flow and is responsible for cars overheating in traffic. At high rpm this design will cause cavitation and aeration. Circle track racers crutch this high rpm condition with under-drive pulleys only to find the engine overheats during caution laps. A common misconception comes from this under-drive solution. Many people believe they have fixed their overheating problem by slowing the water flow, when in fact it was reducing the cavitation by slowing the pump that provided the solution. In engine driven situations the only remedy is a quality racing pump with tight clearances and a swept blade closed impeller. Where rules and conditions permit, electric water pumps can be a solution with multiple benefits. The constant speed of an electric pump eliminates high and low RPM problems. The bonus is that you can run the pump when the engine is shut off. Never run your engine without the water pump on because hot spots can form in the cylinder head before your temperature gauge begins to register. Mated with a good electric fan you can easily regulate water temperature for consistency and rapidly cool the engine between rounds after shutdown.

Pump and System Pressure

The most widely known cooling system fact is: For every pound of pressure in a closed system the boiling point is increased three degrees. For example a 16 lb. cap can increase your boil-over point to 260°F (16 x 3 = 48 + 212 = 260). You may be thinking, "I'd never run over 210°F water temp so what is the benefit?" Although your gauge reads 190°F hot spots around the combustion chamber can be well over boiling temp (212°F @ sea level). A poorly sealed system, low pressure cap or low water level can allow a runaway boil over. The lack of pressure allows boiling to start prematurely. Gasses produced by this boiling pushes water out and aerates the coolant compounding the situation. Water is diverted around these steam pockets leading to more serious problems; surface distortion, metal fatigue and cracks. Once this process begins, it will not stop while the engine is under a load. Water flow, temp and pressure all work to manage this boiling at hot spots which can produce steam pockets that insulate the metal from the coolant.

The higher the pressure produced by the water pump, the less chance of the steam pockets. The same boiling point law is in effect here. Racing pumps can generate pressure in the water jacket in excess of 30 psi to control hot spots and reduce detonation or pre-ignition.

Recommended Operating Temperatures

There are a few different theories on coolant temperature and most have their place. Cold water (under 170°F) and hot oil (230°F) make power. Most drag racers live by this. Internal clearances, tuning, and other factors play the biggest role in where you make the most power. In most other forms of racing and street applications, the engine is under power for minutes or hours rather than a few seconds. In this case, higher temperatures in the range of 190°F to 210°F are ideal. Many factors determine this temperature; block and head castings, metal properties, proper combustion and machined clearances. Either inherently or by design small block Chevrolet engines prefer 190°F to 210°F. Most early domestic V8s are right in that neighborhood.

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Cooling System

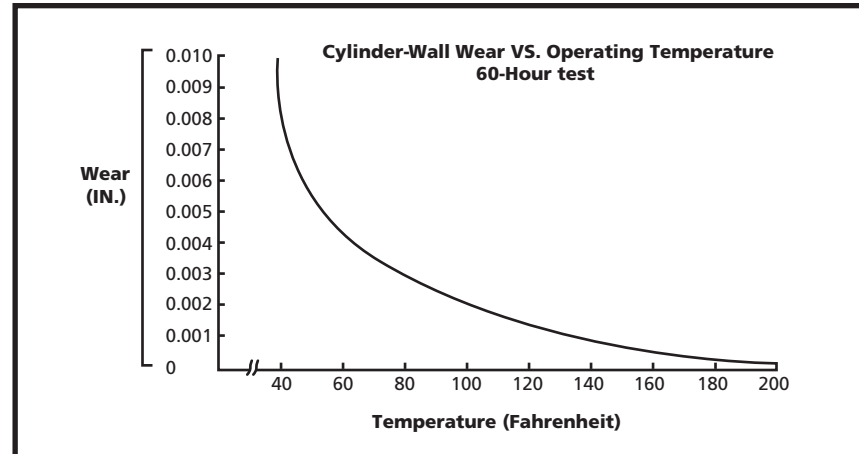
Cooling System Principles (continued)

Cooling System

Cooling System Principles (continued)

Recommended Operating Temperatures

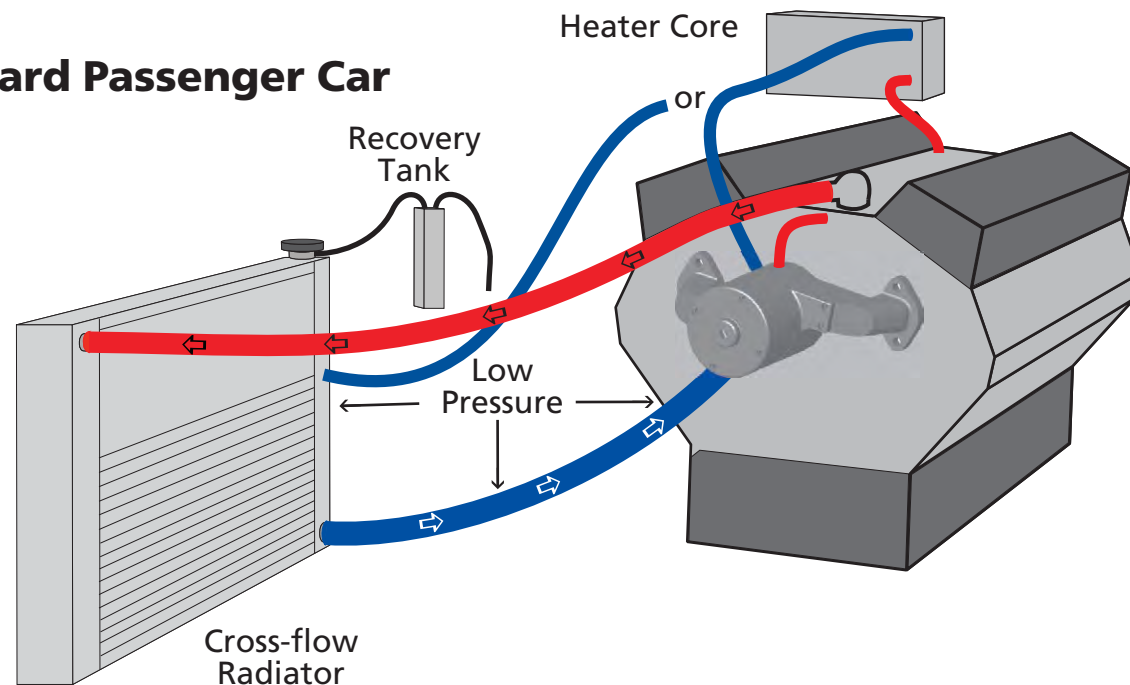
Fuels react to engine temperature and combustion pressure. Low octane gasoline burns more completely at higher temperatures, so manufacturers design late model engines to operate up to 210°F for reduced emissions. Alcohol has a narrow window for proper combustion. Many tuners recommend a water temperature above 195°F to avoid fuel washing the cylinders from an incomplete burn and below 205°F where the combustion byproduct can leave harmful deposits. The internal clearances such as piston to wall and ring gap are set for a predetermined operating temperature by the engine builder. The chart below illustrates the excessive wear that occurs with coolant temperatures below 180°F.



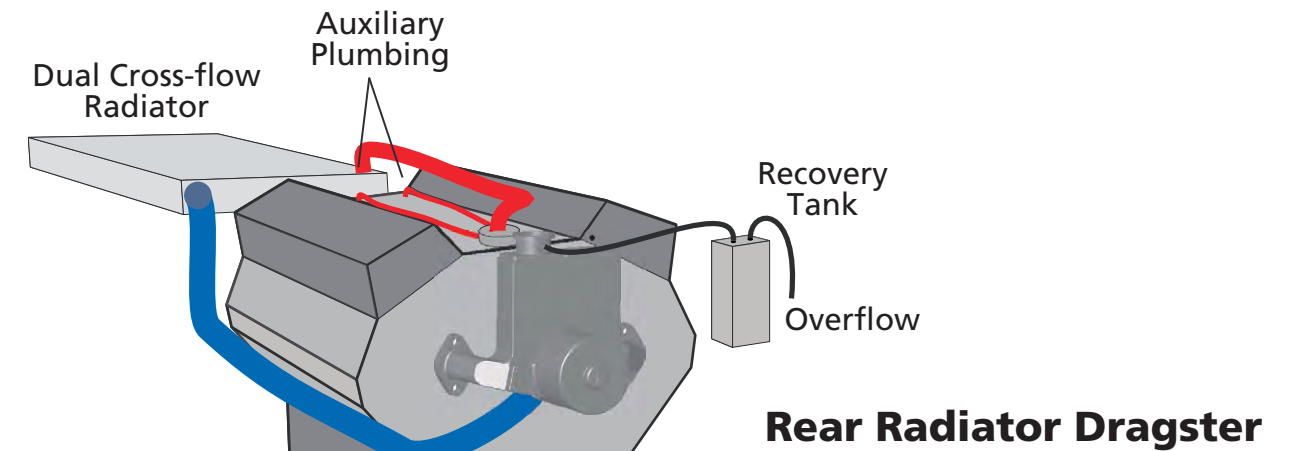
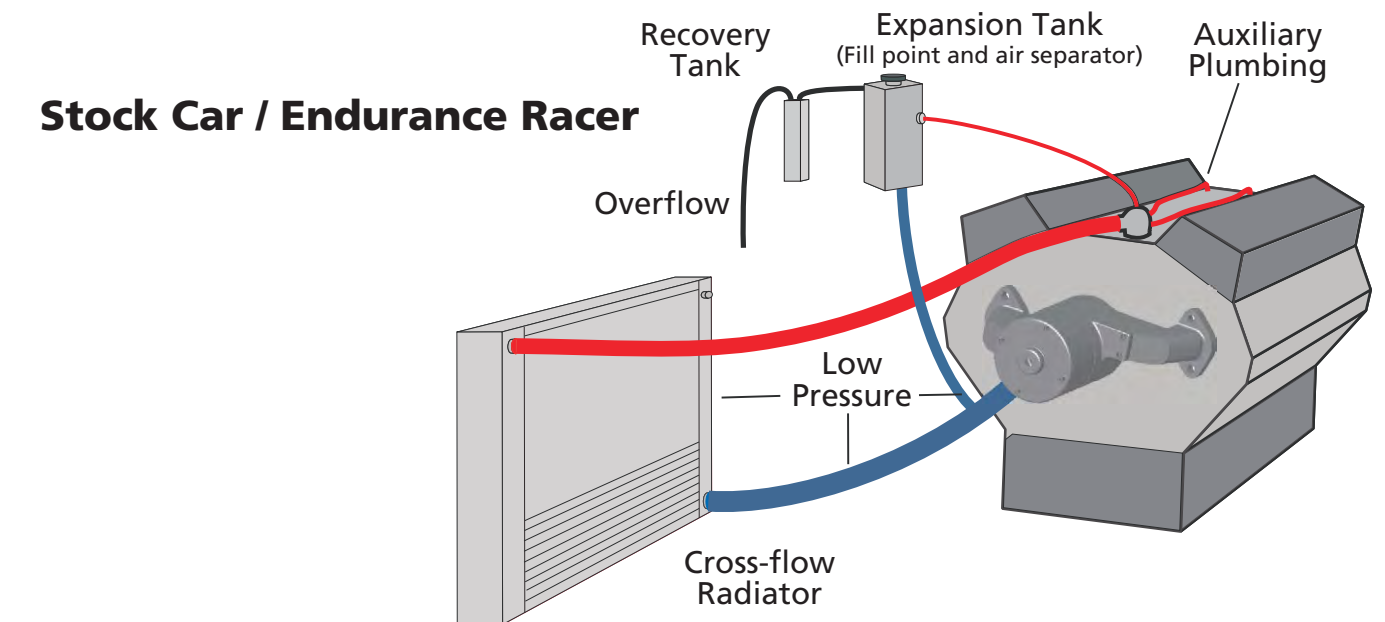
Regular and Irregular System Configurations

The following illustrations are examples of the correct way to plumb typical automotive and racing cooling systems.

Standard Passenger Car

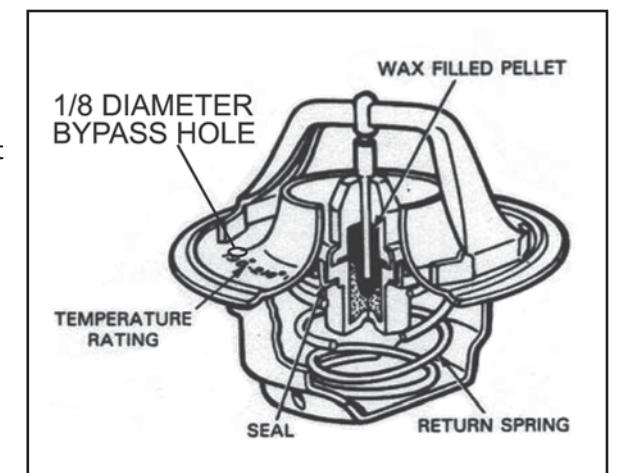


Stock Car / Endurance Racer



Thermostat

A thermostat's primary purpose is to quickly bring the engine up to operating temperature (see section entitled *Recommended Operating Temperatures*). With the exception of drag racing, a thermostat is recommended for most applications. Most racers avoid thermostats, seeing them as another part to fail. Their benefits far outweigh their stigma. In our opinion, the Robertshaw high flow thermostat, the Stant Superstat, or the highly reliable Cloristat used in the Volvo 4 cylinder engines (fits Chevy V8's) is your best choice. The Robertshaw thermostat (available from Mr. Gasket) offers the least amount of restriction when fully open which is desirable with electric pumps. When the cooling system is not equipped with a bypass system, we suggest drilling two small holes in the thermostat's outer ring.

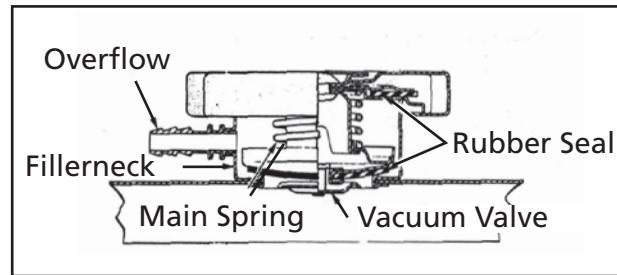


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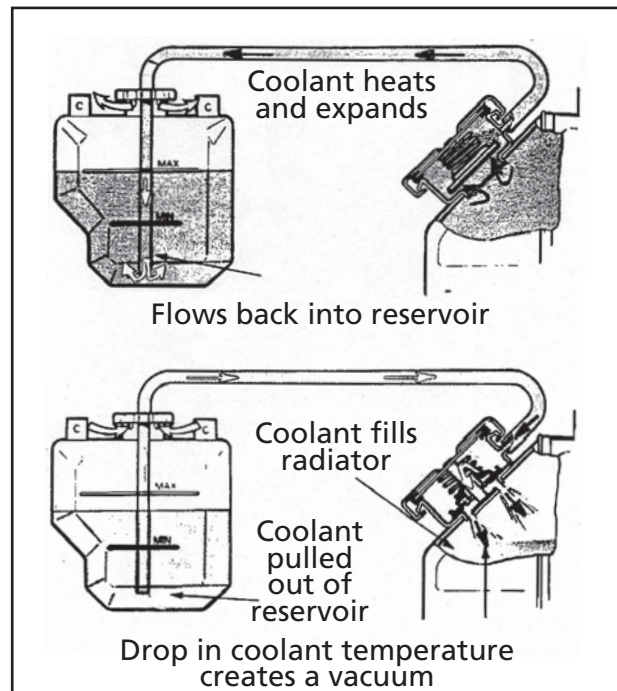
Pressure Cap

As mentioned previously, the more pressure you can hold in a closed system, the higher your boiling point. Run the highest pressure cap your system can handle. The weakest link is typically the radiator or hoses. The radiator manufacturer should be able to suggest the appropriate cap pressure. Check the cap periodically to make sure it is maintaining the advertised pressure. The rubber seal on the cap may harden and form an impression from the seat in the filler neck. A new cap should be used whenever the filler neck or radiator is replaced. One commonly overlooked component is the water neck/filler neck. Most are cast or formed metal. If the pressure cap seat is defective, distorted or poorly designed you will lose water while the engine is running. This situation acts like a bad head gasket. You will notice the engine gets hot faster every round or hot lap session. You wouldn't be the first or the last person fooled into thinking an engine problem was the cause for water pushing through the cap. Lack of pressure on the system builds heat faster and the quick boil-over is pushing all the water out.



Recovery System

Keeping the system full reduces aeration and maintains pressure. As the temperature increases the water expands and pressure builds. If the system is completely full the expansion pressure will exceed the cap pressure and overflow into the recovery tank. If your pressure cap is properly located on the low pressure side of the system, air is pushed out first. When the system cools a vacuum is created. The radiator cap is equipped with a valve that opens under negative pressure and it will draw coolant back into the system. The tube that extends to the bottom of the recovery tank transfers the coolant back to the radiator. Mount the tank as close as possible to the pressure cap. The line should be short and level, reducing restriction and the effect of gravity. If the recovery tank is kept 1/3 full (with the engine cold) every heat cycle will automatically purge more air out of the system. The opposite is true without a recovery system. With every heat cycle water will be pushed out, leaving more air space. This air space can be compressed lowering the boiling point.



Catch Can

What is normally referred to as a catch can should not be confused with a recovery tank. A catch can does not facilitate the action of returning the fluid to the system as it cools. Most sanctioning bodies require a one pint or larger catch can to contain water overflow from the cooling system. The function is to keep coolant off the track and either a recovery tank or a catch can will accomplish this. The only benefit to a catch can is to determine how bad your over heating condition is based on the amount of coolant you drain from it.

Expansion Tank

An expansion tank is sometimes referred to as a surge tank, header tank or air separator. The tank has two main functions. It is used as a fill point when the top of your radiator is lower than the engine's water outlet. As the name infers, it can be used to deal with the expanding volume of water when a recovery system is not utilized. The bottom of the tank is plumbed to the low pressure (suction) side of the cooling system (after the radiator core and before the pump impeller). The smaller fitting on the upper portion of the tank is plumbed to the high points on the engine and radiator to remove trapped air and aerated water. This reservoir located high and out of the main flow of water allows air to separate out of the water making your cooling system more efficient.

Correct Motor Rotation

All of our electric pumps turn clockwise (as viewed from the front) except for LT-1, Modular, and Toyota Supra. The pump will flow a fraction of its potential when spun backwards. Remove the inspection plug in the motor end cap and you will see the 5/32" hex in the end of the motor shaft. Give the pump momentary power and observe the rotation as it comes to a stop. Switch the positive and ground wires if you need to reverse the electric motor.



No Rotation

Check the fuse and replace if blown. Inspect the wiring from the power source to pump. Check the ground for possible faults. Check to see if the electric motor moves freely by removing the inspection plug and turning the shaft with a 5/32" hex wrench before testing pump operation. Turning the shaft back and forth with the hex wrench may dislodge any foreign objects jamming the impeller without disassembling the pump. Failure to install a fuse inline on the positive lead may result in motor failure in a jammed impeller situation.

Electrical Faults

Start from the pump ground. It should be free of paint, dirt and corrosion. The ground must also have a good path back to the battery; i.e. block to frame, frame to battery and block or frame to body. A chromoly chassis has poor conductivity and should not be used as a ground path. Inspect wiring for shorts. Check all the connections, especially crimp terminals. Tug on crimp connections and look for signs of overheating. Resistance at crimp connections can be reduced by adding a small amount of solder. This technique will increase reliability and reduce power consumption. Use a test light or jumper lead to check for an open circuit or switch.

No Flow- Air Locked

If the rotation is correct and you still have no water flow, the pump may be air locked. This occurs most frequently when the cooling system has been drained and refilled. Occasionally by raising the drivers side of the car, or squeezing the lower hose you can purge enough air to allow the pump to prime. There are a few ways you can modify the pump to rectify this problem if it continues to reoccur. Please call us 8 a.m. to 5 p.m. Pacific Time for more information.

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Starter System Principles

When you make the decision to use aftermarket parts in your starting system you have moved away from the mass produced "loose tolerance" parts. What this means is; you now will need to take more of the responsibility in making sure the flexplate or flywheel and the starter drive engage correctly. These factors include both the ability of the starter to stay engaged without moving and the starter's ability to stay disengaged under the high G forces experienced during acceleration. Many factors can contribute to early starter or flexplate failure. We will outline some of the pitfalls that racers have come across.

Engine Tune

Assuming that you have carefully and correctly mounted your starter and flexplate you can still have problems with the engine not turning over well. Engine tune can be one of the greatest factors in early starting system failures. Most race engines run timing advanced in the 35-42 degrees BTDC range. With this much advance, combined with the high compression ratios of typical race engines, it is common to see the engine "kick back" against the starter when the engine fires well before TDC. Most racing ignition systems have a start retard system that will reduce the ignition timing during engine cranking. If the system is not set correctly you may experience costly starting problems. You can check the timing with a timing light while cranking the engine to verify that your start retard system is working properly.

Starter Engagement/Condition:

These checks can be made after the flexplate has been installed on the engine, but before the transmission has been installed. Before making any clearance checks, inspect the starter gear to make sure it is not worn, broken, or sloppy. Repair or replace as necessary.

Radial Clearance:

Physically engage the starter gear into the ring gear to observe engagement. You should be able to grab the gear with pliers and pull it out. The gear should be able to engage fully without interference and have some slight (.025" max) gear lash. This is an important step. Too much gear lash will put excessive load on the gear teeth. Too little lash will cause the starter gear to hang up in the ring gear after engine start. Add starter-to-block shims to increase lash. Decrease starter-to-block shims to decrease lash. If no shims are present and the lash is too great, special machining may need to be done to the starter mounting block. Do whatever is necessary to achieve proper clearance!

Axial Clearance:

With the starter gear retracted out of the flexplate there should be .06"-.140" clearance. This clearance is necessary to keep the starter gear from engaging under G-loads, but should not be so much that the gear can not reach full engagement during starting.

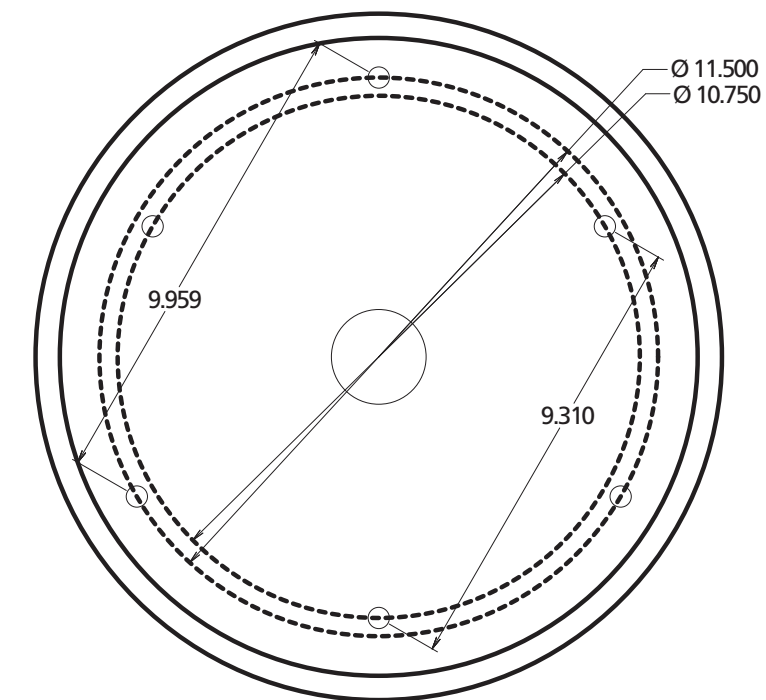
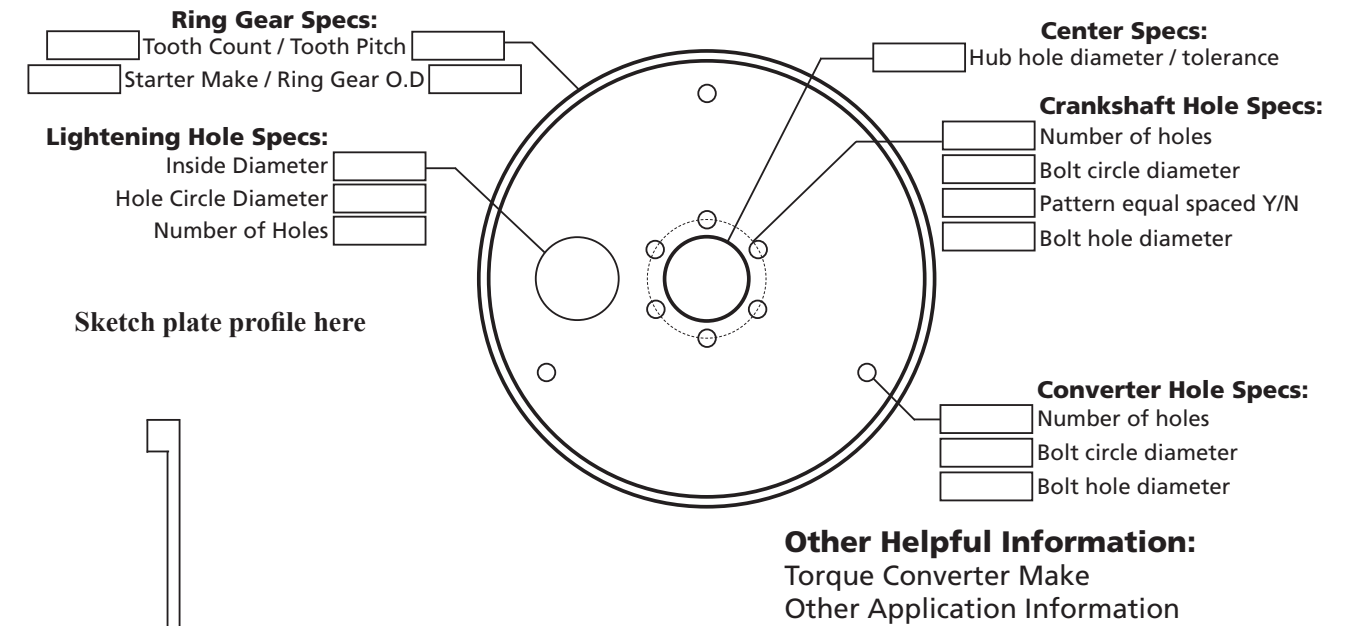
Starter Electrical Circuit:

Your starter can not perform to its potential if it does not get proper voltage and current. By performing a quick check, you can make sure your starter wiring is correct. To safely perform this test, take measures to prevent the engine from starting (ex. Disconnect coil wire). Measure voltage at the vehicle battery while cranking. Next measure voltage at the starter terminal while cranking. The voltage at the starter should be within 1/2 volt of the reading at the battery. At any time the voltage at the starter should not be less than 9.0VDC. If an excessive voltage drop exists, measure voltages at each connection in the system and repair the system as necessary. An under-voltaged starter can cause excessive load on the starter as well as over-load to the starter gear and ring gear.

Mechanical Conditions:

For the best results with your starter and /or flexplate installation, here are a few things to consider. When removing your old flexplate, inspect fasteners which may have been damaged or loose. Also look for any cracks, metal transfer, or abnormal ring gear wear which may suggest other problems. Inspect torque converter pads for flatness and check the back of the crank shaft and the starter mounting surface for metal transfer as well. All of these mating surfaces need to be completely flat for proper contact. If these surfaces are not flat, dress them with a file. Uneven mounting surfaces will cause misalignment and instability that cannot be corrected by shims or any other means. The goal is to allow your starter to enter the driven teeth at a 90 degree angle and maintain its position as it is driving the ring gear.

Please keep the safety of yourself and those around you in mind first.
Use jack stands and proper lifting equipment while working under your vehicle.



Torque Converter Pattern - cheat sheet

By measuring across 2 of the 3 bolt holes in the circle, these numbers will help you determine which converter pattern you currently have.

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