MAIN STUD KITS

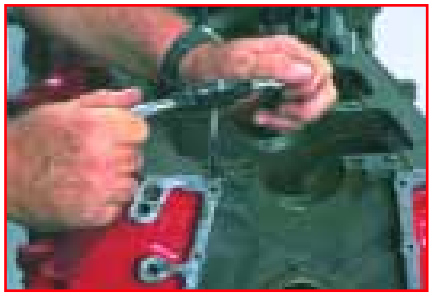
STUDS vs. BOLTS

ARP® recommends the use of main studs over bolts whenever possible for several key reasons. First is the ability to obtain more accurate torque readings because studs don't "twist" into the block. All clamping forces are on one axis. By the same token, there is less force exerted on the block threads, which contributes to improved block life (very critical on aluminum blocks). Finally, there are factors of easier engine assembly and proper alignment of caps every time.

There are many important reasons to use ARP® main stud kits, including the elimination of main cap walk and fretting, as well as protecting the threads in your engine block. The studs are manufactured in our own factory using the best materials, processes, designs and engineering. Every ARP® main stud kit exceeds the most stringent aerospace specifications. All kits come complete with hardened parallel-ground washers and aerospace quality nuts. Some applications have provisions for mounting windage trays and have specially designed standoff studs with serrated lock nuts to position the windage tray and lock it securely in place. The studs are manufactured from 8740 chrome moly steel, heat-treated in-house to **200,000 psi** tensile strength, and precision J-form threads rolled after heat-treat to create a fastener that has threads 1000% stronger than others. Don't settle for anything less than the best. Insist on genuine ARP® studs…you'll find the name stamped right on the end!

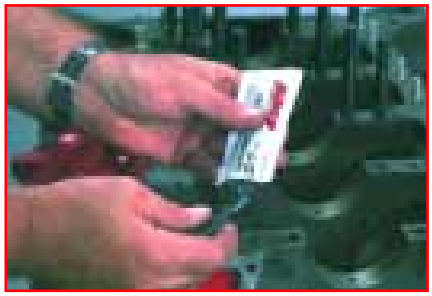
TECH TIPS: MAIN STUD INSTALLATION

There are a number of important considerations when installing ARP® main studs. First and foremost is making sure the block and studs are as clean as possible. Foreign matter and debris can easily affect the quality of thread engagement and cause erroneous torque readings. Do not re-cut threads in the block—use the special "chaser" taps as listed on page 80 of this catalog. This will preserve the integrity of the threads and provide better engagement. You should also make sure your torque wrench has been calibrated. Even new wrenches have been known to be off by as much as 10 foot pounds! Use consistent tightening techniques.



1. Clean and chase appropriate threads in block to ensure proper thread engagement and accurate torque readings.

2. All hardware (and caps) should be cleaned and inspected prior to installation, looking for any shipping damage or defects.



3. Screw studs into block, finger tight ONLY. For permanent installation, apply Loc-tite (or similar adhesive) sparingly to threads. Be sure and install the caps promptly before the cement sets to prevent misalignment of studs in block.

4. Install main caps, checking for binding and misalignment. Lubricate threads, nuts and washers with oil or ARP® moly assembly lubricant before installation. Note that torque specs will vary by lubricant. Moly lube is most consistent. Have block align honed.

5. Using the instructions provided with the studs, tighten the nuts to proper torque values three times. NOTE: If using Loc-Tite or similar cement, proper preload must be achieved prior to it setting up.

Application	2-Blt. Mn.	4-Blt. Mn.
BMC		
A series	206-5401	
B series, 3 cap main	206-5402	
B series, 5 cap main	206-5403	
Triumph TR7	206-5404	
BMW		
M50	201-5000	
BUICK		
V6 Stage I & II	123-5401	
V6 Stage II, without windage tray		222-5602
V6 Stage II, with splayed cap bolts		322-5802
215 c.i.d., aluminum V8	124-5401	
350 c.i.d.	124-5402	
401 c.i.d. (nail head)	124-5404	
455 c.i.d.	125-5401	
455 c.i.d., 12 pt. nuts	125-5402	
CADILLAC		
472-500, hex	135-5507	
CHEVY, SB		
283/327	130-5402	
400, with windage tray		234-5606
400, w/windage tray, w/3.0" outer stud		234-5607
400, splayed cap bolts & wedge tray		234-5605
Large journal, without windage tray	134-5401	
Large journal, with windage tray	234-5501	
Large journal, with straps (F & R caps)	234-5503	
Small journal, w/o windage tray	134-5402	
Large journal, 12 pt. ①	134-5403	
Small journal,with windage tray	134-5501	
Large journal, without windage tray		134-5601
Large journal, with windage tray		234-5601
Large journal, with straps (F & R caps)		234-5603
Large journal, with splayed cap bolts		234-5602
Large journal, with straps & splayed caps		234-5604
LS1, LS6 5.7L & 6.0L		234-5608
SB2, including 4-bolt, F & R caps, without windage tray		134-5602
Dart Little M		234-5801
SBC rocket block		184-5403
CHEVY, BB		
Without windage tray	135-5402	135-5601
With windage tray	235-5502	235-5701
Aluminum block, without windage tray		135-5603
Mark V, 502, without windage tray		135-5606
Mark V, 502, with windage tray		235-5606
Mark IV Bowtie, with windage tray		235-5702
Dart Big M		235-5601
CHEVY, V6 and Inline 6		
90°, without windage tray		233-5602
90°, with windage tray		233-5702
90°, with splayed cap bolts		233-5601
Inline 6, '54-62, without windage tray	132-5402	
Inline 6, '63-present, without windage tray	132-5401	
CHRYSLER		
Chrysler, 2.2L, ③ 4-cylinder, 11mm	141-5401	
Dodge Neon DOHC/SOHC with block #4667642	141-5801	
Cast Iron SL6	142-5401	
Mopar, all V8	140-5401	
Chrysler 354 Hemi ③	145-5404	
Mopar, with 12 pt. nuts	140-5402	
KB Hemi 426	245-5602	
Mopar 426 Hemi	145-5601	145-5602
Mopar all V8, with windage tray	240-5501	
FORD, SMALL BLOCK		
289-302 c.i.d.	154-5401	
289-302 c.i.d., with windage tray	254-5501	
289/302 with 1/2" straps	154-5408	
302, dual or rear sump oil pan	154-5407	
302, with girdle	154-5410	
Boss 302, with windage tray		154-5602
302 R-block, 1/2" studs		254-5601

Application	2-Blt. Mn.	4-Blt. Mn.
FORD continued		
351 c.i.d., Windsor	154-5403	154-5606
351 c.i.d., Windsor, with windage tray	154-5503	
351 c.i.d. Windsor, with dual or rear sump oil pan	154-5409	
351 c.i.d., SVO		154-5603
351 c.i.d., SVO, without windage tray		354-5604
351 c.i.d., Cleveland	154-5404	154-5604
SVO 302		154-5605
351 "R" block		354-5605
Ford Australian 7/16"	154-5405	
Ford Australian 1/2"	154-5406	
FORD, BIG BLOCK		
390-428 c.i.d. FE series hex	155-5401	
390-428 c.i.d. FE series, 12 pt.	155-5421	
429-460-385 c.i.d. series	155-5402	155-5501
429-460-385 c.i.d., with windage tray ②	255-5502	255-5702
FORD, MODULAR (1998 & earlier)		
4.6L, 2 valve	156-5401	256-5801
4.6L, 4 valve	156-5402	156-5802
4.6L, 4 valve with windage tray		256-5701
FORD 4 and 6-CYLINDER		
1600 4-cylinder	151-5403	
Pinto 2000cc	151-5401	
Pinto 2300cc	151-5402	
Inline 6, 240-300 c.i.d.	152-5401	
Zetec 2.0L	151-5404	
FORD V6		
2.5 Duratec V6	253-5402	
4.5L, without windage tray	253-5401	
HOLDEN		
308, V8	205-5401	205-5501
HONDA		
B16A & VTEC, 12 pt. nuts	208-5402	
H22A, H23A, 12 pt. nuts	208-5401	
MAZDA		
Miata, 1.6L, 1.8L, 12 pt.	218-5401	
MITSUBISHI		
2.0L, 4-cylinder, 16-valve, 4G63	207-5401	
2.6L, 4-cylinder	207-5402	
NISSAN		
Nissan L20 series, 4-cylinder	202-5401	
Nissan L24, L26, L28 series, 6-cylinder	202-5406	
OLDSMOBILE		
Quad 4	281-5401	
350 c.i.d.	184-5401	
350 c.i.d., diesel 5.7	184-5402	
455 c.i.d.	185-5401	
DRCE-iron block	285-5801	
PONTIAC		
4-cyl super duty - cast block	291-5801	
4-cyl super duty - mag block	291-5802	
V8, 400, 455 c.i.d.	194-5401	194-5601
TOYOTA		
22R	203-5406	
3SGTE	203-5404	
3SEE & 4AG, 16 valve	203-5403	
Supra 2JZA80	203-5405	
Supra 7M GTE, Supra	203-5402	
VAUXHALL/OPEL		
2.0L, 16 valve	209-5401	
2.5L, V6	209-5402	
VOLKSWAGEN		
Rabbit, Golf and Jetta, 1.6L-2L	204-5402	
VR6	204-5403	

Red part numbers indicate new items.

① *Includes large journal 327ci.* ② *Ford Motorsports windage tray.* ③ *Except 426 Hemi.*

MAIN BOLTS

Far superior to any other main bolt kit offered for use in competition engines. ARP® main bolts are designed to meet the exacting standards and demands of professional engine builders. Forged from 8740 chrome moly, all bolts feature generous under-head radius and rolled threads for the utmost reliability. The threads are rolled after heat-treating, which makes them about 1000% longer fatigue life than most main bolts, which are threaded prior to heat-treating. Available in the popular **High Performance Series**, which, at a nominal rating of 180,000 psi, is a premium replacement for OEM fasteners, or the 200,000 psi nominal rated **Pro Series**, application-specific main bolts with reduced wrenching head and are designed for use in competition applications. Parallel-ground, hardened washers are included with each kit.

Application	High Perf. Part No.	Pro Series Part No.
BUICK		
V6 Stage I, 4-bolt main	123-5201	
Stage II, MBK	123-5202	
455 c.i.d., 2-bolt main	125-5201	
Stage II		223-5202
CHEVROLET, SMALL BLOCK		
2-bolt main, large journal	134-5001	
2-bolt main, small journal	134-5002	
4-bolt main, large journal	134-5202	
4-bolt main, large journal, 12 pt.		234-5201
Lg. Jrnl. 4-bolt, w/1/2" straps on F&R caps		234-5203
V6, 90° 4-bolt main		233-5201
V6, 90° 4-bolt main, w/1/2" straps on F&R		233-5203
CHEVROLET, BIG BLOCK		
2-bolt main	135-5002	
4-bolt main	135-5201	
CHEVROLET, V6		
90° 4-bolt main		233-5201
90° 4-bolt main, w//2" straps on F&R caps		233-5203
CHRYSLER, BIG BLOCK		
2-bolt main, Mopar, all V8 (except Hemi)	140-5001	
426 Hemi, 4-bolt main	145-5201	

Application	High Perf. Part No.	Pro Series Part No.
FORD, SMALL BLOCK		
2-bolt main	154-5001	
4-bolt main	154-5201	
351 Windsor, 4-bolt main	154-5203	
351 Windsor, 2-bolt main	154-5003	
351M, 400M		
351 Cleveland, 2-bolt main	154-5004	
351 Cleveland, 4-bolt main	154-5204	
SVO 351 c.i.d., 4-bolt main, 3/8" outer bolts		254-5202
SVO 351 c.i.d., 4-bolt main, 7/16" outer bolts		254-5203
FORD, BIG BLOCK		
390-428 c.i.d. FE series	155-5201	
429-460 c.i.d. 385 series	155-5202	
HOLDEN		
308 V8	205-5001	
OLDSMOBILE		
350 c.i.d., 2-bolt main	184-5001	
350 c.i.d. diesel, 2-bolt main	184-5002	
455 c.i.d., 2-bolt main	185-5001	
TOYOTA		
Toyota 1600cc		203-5001

MAIN AND HEAD BOLT INSTALLATION

Recommended for applications requiring the utmost in reliability and the convenience of bolts. ARP® bolt kits yield optimum reliability.

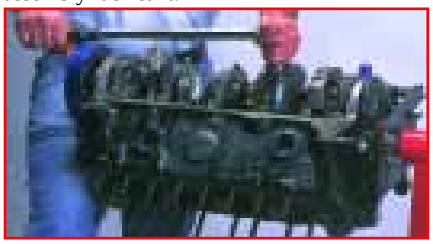
SPECIAL NOTE: Where the stretch method cannot be used, the bolts must be installed by torque and several factors should be taken into account. Please refer to bolt stretch info on page 26.

1. Clean and chase all block threads to ensure maximum thread engagement and accurate torque readings.

2. Inspect all hardware prior to installation, then clean and lubricate with ARP® moly assembly lubricant.

3. Seal all threads extending into the water jacket with ARP® thread sealer.

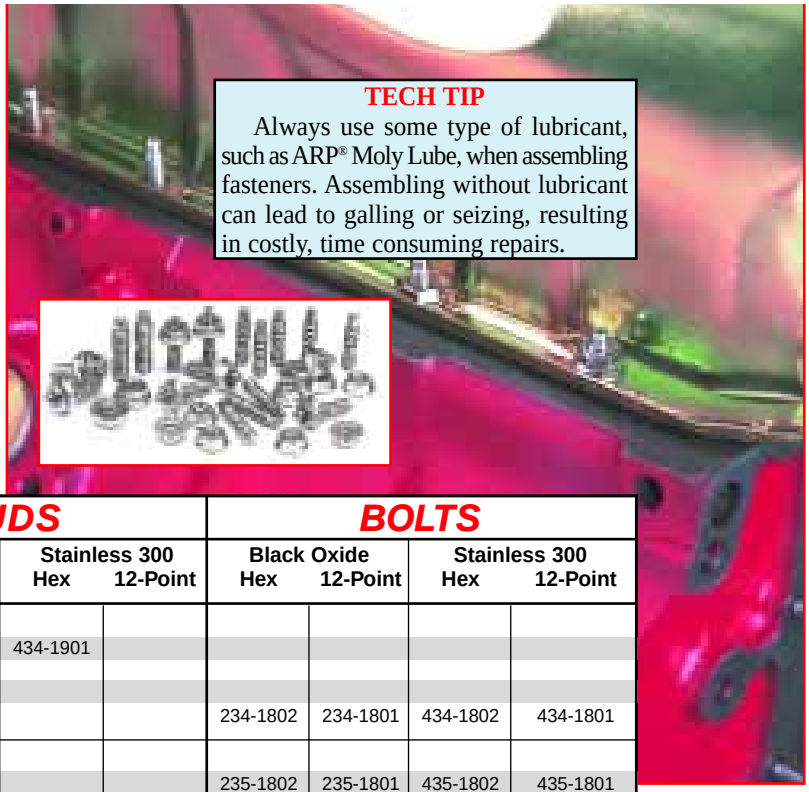
4. Install the main cap or head gasket and head, checking for improper fit or binding. Make sure all mating surfaces are fully seated. Install all bolts hand-tight.



5. Using an accurate torque wrench, cycle bolts three times to recommended values found in the general fastener torque chart located on page 24.

OIL PAN BOLT & STUD KITS

The engineers at ARP® spent quite a bit of time developing these highly effective, unique oil pan studs. They're designed to make it as easy as possible to install a pan and seal it properly. You'll note that the studs have a radiused bullet nose that serves to locate the pan rails, then allow the nuts to be easily installed without the worry of cross-threading. For those who prefer bolts, ARP's got you covered, too. Both are available in black oxide finished chrome moly steel or rust-proof stainless steel. Also, take your pick from conventional hex nuts (or bolt heads) and a space-saving 12-point design. The stud kits come complete with a special locking flanged nut, while the bolt kits come with washers.



TECH TIP

Always use some type of lubricant, such as ARP® Moly Lube, when assembling fasteners. Assembling without lubricant can lead to galling or seizing, resulting in costly, time consuming repairs.

NOTE: Studs come with flanged lock nut. Bolts come with washers.	STUDS				BOLTS			
	Black Oxide		Stainless 300		Black Oxide		Stainless 300	
Application	Hex	12-Point	Hex	12-Point	Hex	12-Point	Hex	12-Point
CHEVROLET, SMALL BLOCK								
Stud kit	234-1901	234-1902	434-1901					
With Girdle, 5/16" diameter	334-1902							
V6, 90°	333-1901							
Bolt kit					234-1802	234-1801	434-1802	434-1801
CHEVROLET, BIG BLOCK								
Bolt kit					235-1802	235-1801	435-1802	435-1801
Stud kit	235-1901	235-1902	435-1901					
CHRYSLER, SMALL BLOCK								
Mopar, bolt kit					200-1802	200-1801	400-1802	400-1801
Mopar, stud kit	200-1901	200-1902	400-1901	400-1902				
CHRYSLER, BIG BLOCK								
KB Hemi, 1.300"	245-1901	245-1903						
KB Hemi, 1.700"	245-1902	245-1904	445-1902	445-1904				
FORD, SMALL and BIG BLOCK								
289-302, 351C & 351W, stud kit, small block	254-1901	254-1902	454-1901	454-1903				
289-302, 351C & 351W, bolt kit, (late model)					254-1802	254-1801	454-1802	454-1801
302/351W with side rail	254-1903	254-1904	454-1902	454-1904				
351C & W with stamped steel pans							454-1804	454-1803
FE series, big block					255-1802	255-1801	455-1802	455-1801
Small block, 8 pack (early model)					254-1804	254-1803		
PONTIAC								
Bolt kit					200-1802	200-1801	400-1802	400-1801Stud
Stud kit	200-1901	200-1902	400-1901	400-1902				

Red part numbers indicate new items.

OIL PUMP BOLTS & STUDS

You've probably heard many a horror story about someone losing an engine when the oil pump fell off into the pan because of a broken bolt. Well, you can put your mind at ease when using ARP's premium grade oil pump bolt and stud kits. You have a choice of black oxide finished 8740 chrome moly steel or low maintenance stainless steel. Both are nominally rated at **170,000 psi** tensile strength to provide you with plenty of clamping force. Moreover, take your pick between conventional hex head or 12-point designs. This is "insurance" no conscientious engine builder should be without! The studs come with flat washers and nuts, while the Ford bolt kit has flat washers only. These inexpensive fasteners can literally save your engine. Get 'em!

Application	Black Oxide Hex	Black Oxide 12-Point	Stainless 300 Hex	Stainless 300 12-Point
CHEVROLET, V8 (studs only)				
Small block, stud kit	230-7001	230-7002		
Small & big block, 3.125", high volume, stud kit	230-7003	230-7004		
FORD				
5/16", 4 Pc. complete bolt kit	150-6902	150-6901	450-6902	450-6901
Oil pump to pickup, stud kit	154-7005			
SVO, external oil pump, stud kit, 5/16"x7.0"	154-7006			