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**ATTENTION:  
VALVE SPRING WARNING FOR ALL PACKAGES**

On all complete packages, it is very possible that your valve springs are not correct for your camshaft. All valve springs should be checked for compatibility to your camshaft. Severe wear of valve train components and severe engine damage could result from failure to do this. Check spring requirements before heads are installed on the engine. BRODIX requires you to supply the valve springs for any engine that has a flat tappet camshaft with over .615 valve lift.

**WARRANTY DISCLAIMER:**

No warranties of any nature (expressed, implied, fitness of usage or merchantability) are given on these products. Seller undertakes no responsibility for any product sold. Additional disclaimers are within and are binding upon this contract. Due to the intended usage of products offered, all products are sold on an "as-is" basis, and no warranties of any kind, whether written or oral are made by BRODIX, Inc., its agents or employees. All implied warranties, including the implied warranties of merchantability and fitness are expressly excluded, and the buyer bears the entire risk as to quality performance and use of these products. BRODIX, Inc. will assume no responsibility of personal injury, labor or other injury arising out of the usage of high performance racing parts or products. Any defective part will be handled between the original manufacturer and the buyer.

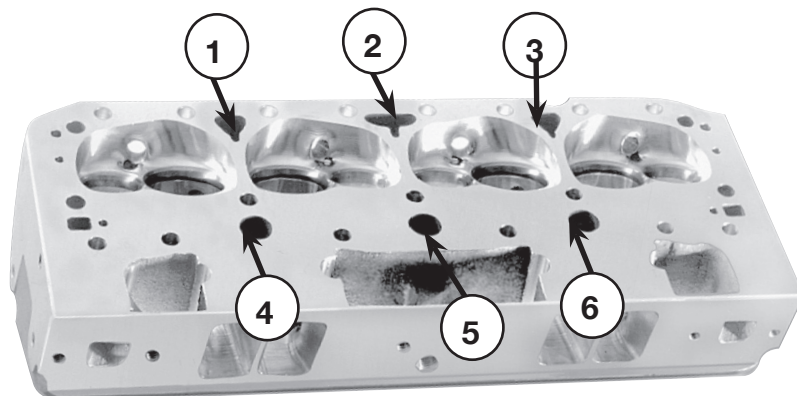
BRODIX, Inc. reserves the right to change specifications, prices and discontinue parts without notice. Installation of BRODIX heads may adversely affect the vehicle manufacturer's warranties, and may violate State and Federal laws when vehicles so equipped are operated other than strictly off-highway. BRODIX reserves the right to discontinue any product at its sole discretion and without any liability with respect to similar products already in the field. Some parts are not legal for sale or use in California on any pollution controlled motor vehicle.

**DUE TO THE POTENTIAL FOR ABUSE AND OVERLOADING WITH A SUPERCHARGER, WE DO NOT RECOMMEND OUR PRODUCTS FOR SUPERCHARGED APPLICATIONS.**

### Optional Water Circulation Holes for Small Block Engines

BRODIX HEADS DO NOT HAVE STEAM HOLES DRILLED IN THEM; HOWEVER, THE HEAD GASKET CAN BE MODIFIED TO ELIMINATE THE NEED FOR STEAM HOLES. THIS EXAMPLE SHOWS SIX HOLES IN THE DECK OF A SMALL BLOCK HEAD\*. LAY A HEAD GASKET ON THE DECK, NOTING WHERE THE GASKET COVERS THE HOLES IN THE DECK; PUNCH AT LEAST A 3/8" HOLE IN THE HEAD GASKET. THIS PROCEDURE CAN BE DONE TO BOTH HEAD GASKETS TO IMPROVE WATER CIRCULATION.

\* #4 and #6 hole locations do not apply to the 1K® series heads.



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### WARNING!

**PLEASE CHECK THE HEAD THOROUGHLY IN EVERY POSSIBLE WAY. IF YOU SUSPECT A DEFECT, CONTACT BRODIX, INC. OR THE DEALER IT WAS PURCHASED FROM BEFORE ANY WORK HAS BEGUN. BRODIX WILL NOT BE RESPONSIBLE FOR DEFECTS AFTER ANY WORK HAS BEEN STARTED.**

Inspect the head for damage from shipping, and check valve stems for nicks by mishandling.

**VALVE SPRINGS MAY NOT BE COMPATIBLE WITH YOUR CAMSHAFT COMBINATION. PLEASE CHECK BEFORE ENGINE ASSEMBLY. SEVERE DAMAGE COULD OCCUR.**

\*Check valve to piston clearance.

\*Check piston to cylinder head clearance.

The bronze guides should be wet honed for clearance on bare heads only. When buying the heads complete, this is performed at BRODIX. A good cross hatch pattern is desirable for initial oil retention.

Valve stems should be lubricated before installation in valve guides. Recommended valve clearance is .0015 for intake and .00175 for exhaust.

**Most bronze valve guide wear problems are created in the initial preparation and engine warm up. Bronze guides cannot run dry for any amount of time.**

If a valve stem seal is used, the neoprene-teflon insert type is desirable. We do not recommend a tight seal.

Use Loc-Tite "271" sealant on rocker stud threads. Torque to 40-45 ft-lb.

Bare, non-ported heads are shipped without a valve job, bowl blend, and intake port match. CNC ported heads are shipped ready for assembly with a valve job.

**Do not cut spring pockets any larger or deeper than standard size before consulting with a BRODIX technician.**

Fel-Pro or Cometic head gaskets are recommended. Always check for gasket overlap into chambers. New type o-ring gaskets may imprint heads. In most cases, they are acceptable.

Torque head bolts to 70 ft-lb in increments of 20 ft-lb. Use a drop of 30W motor oil under head of bolt. Make sure head bolts do not bottom out in block. Sealer should be used on head bolt threads.

A re-torque after initial warm up is desired. Allow engine to cool for twelve hours before re-torquing.

**Check pushrod clearance with head installed on the engine block before final assembly.**

**Apply anti-seize on all bolts and spark plug threads.**

Alcohol cars can start with NGK-R 5671 A-9. Gasoline (racing fuel) cars can start with NGK-R 5671 A-8. This is only a recommended starting range. You may discover that a colder or hotter plug will work better with your combination. Gasoline (pump gas) can start with Champion RN12YC or the equivalent plugs. Plugs must be 14 mm, .750 reach. Put large flat side of spark plug gasket next to head.

**WARNING!** Please be advised that heat soaking aluminum heads above 250° F can drastically affect the hardness.

**Cleaning techniques that utilize heat are not recommended.**

Please feel free to call, write, or email if there are any problems or questions. We have a complete repair service available if head damage occurs.

We also stock oversize guides and seats.

**PARTS RECOMMENDATIONS INSIDE**

Revised 6/14/10

<b>BRODIX® Small Block Cylinder Heads</b>	<b>Head Bolts Cast Iron</b>	<b>Head Studs</b>	<b>Head Gaskets</b>	<b>Intake Gaskets</b>	<b>Exhaust Gaskets</b>	<b>Manifolds</b>	<b>Rockers</b>
RR 180, IK 180, IK 200, JJ 180	MA 42313 AR 134-3601	AR 134-4001 (6 pt) AR 234-4301 (12 pt)	350 - FP 1003, CO C5399 400 - FP 1004, CO C5403	FP 1204, CO C5416 FP 1206, CO C5414 (IK 200)	FP 1404 CO C5417	HP 1 (1500-5500), HV 1016 (2000-6500), DP HV 1014, SP	STANDARD WITH 3/8 ROCKER STUDS
-8, -10, -11, -11X, SPEC, RR 200, TRACK 1, TRACK 1X, STS T1 215/ KC T1 227, STS T1 233, KC IK 210, JJ 200, JJ 210 (STANDARD EXHAUST PORT)	MA 42313 AR 134-3601	AR 134-4001 (6 pt) AR 234-4301 (12 pt)	350 - FP 1003, CO C5399 400 - FP 1004, CO C5403	FP 1206, CO C5414 FP 1205 (KC IK 210)	FP 1406 CO C5415 MG 1406	HV 1014 (4150 TOP), SP HV 1000 (4150 TOP), SP HV 1002 (4500 TOP), SP	STANDARD WITH 7/16 ROCKER STUDS/ TRACK 1X OR STS T1 233 REQUIRES JESEL OR T&D WITH MINIMUM .220 OFFSET
-8, -10, -11, -11X, ASCS, SUPR (SPREAD PORT EXHAUST)	MA 42313 AR 134-3601	AR 134-4001 (6 pt) AR 234-4301 (12 pt)	350 - FP 1003, CO C5399 400 - FP 1004, CO C5403	FP 1206, CO C5414	MG 52464 CO C5424, MG 1500	HV 1014 (4150 TOP), SP HV 1000 (4150 TOP), SP; HV 1002 (4500 TOP), SP	STANDARD WITH 7/16 ROCKER STUDS
-10 RI, -10X, WP 10 STD X, WP 10 STD RI, (STANDARD EXHAUST PORT)	AR 134-3602	AR 234-4106 (6 pt) AR 234-4306 (12 pt) AR 234-4305 (12 pt) - RI	350 - FP 1003, CO C5399 400 - FP 1004, CO C5403	FP 1263	FP 1406 CO C5415 MG 1406	10 RI - HV 1001 (4150 TOP), SP 10X - HV 1005 (4150 TOP), SP 10X - HV 1006 (4500 TOP), SP	JESEL OR T&D WITH MINIMUM .450 OFFSET INTAKE ROCKER, .180 OFFSET LIFTER
-10 RI, -10X, WP 10 RI, WP 10X, (SPREAD PORT EXHAUST)	AR 134-3602	AR 234-4106 (6 pt) AR 234-4306 (12 pt) AR 234-4305 (12 pt) - RI	350 - FP 1003, CO C5399 400 - FP 1004, CO C5403	FP 1263	MG 52464 CO C5424 MG 1500	10 RI - HV 1001 (4150 TOP), SP 10X - HV 1005 (4150 TOP), SP 10X - HV 1006 (4500 TOP), SP	JESEL OR T&D WITH MINIMUM .450 OFFSET INTAKE ROCKER, .180 OFFSET LIFTER
-18 STD X, STS 18 STD X	N/A	AR 234-4303, 7/16 CENTER AR 234-4727, 3/8 CENTER	350 - FP 1003, CO C5399 400 - FP 1004, CO C5403	MG 1800 CO C3250	FP 1406 CO C5415	HV 1800 (4150 TOP), SP HV 1801 (4500 TOP), SP	18X STANDARD WITH 7/16 ROCKER STUDS, JESEL OR T&D 40/60 .250 OFFSET ROCKER
-18 SP X, STS 18 SP X	N/A	AR 234-4303, 7/16 CENTER AR 234-4727, 3/8 CENTER	350 - FP 1003, CO C5399 400 - FP 1004, CO C5403	MG 1800 CO C3250	MG 52464 CO C5424	HV 1800 (4150 TOP), SP HV 1801 (4500 TOP), SP	18X STANDARD WITH 7/16 ROCKER STUDS, JESEL OR T&D 40/60 .250 OFFSET ROCKER
-18 SP C, WP 18 SP C, KC 18 SP C, WP 18 SP C AP	N/A	AR 234-4303, 7/16 CENTER AR 234-4727, 3/8 CENTER	350 - FP 1003, CO C5399 400 - FP 1004, CO C5403	FEL-PRO 1282 (MODIFIED)	MG 52464 CO C5424	HV 1814 (4150 TOP), SP HV 1813 (4500 TOP), SP	JESEL OR T&D WITH MINIMUM .550 OFFSET INTAKE ROCKER, .180 OFFSET LIFTER
-12, (ALL DESIGNS EXCLUDING "P" DESIGNS), KC 12 SP B, STS 12 SP WB MC	N/A	AR 234-4303, 7/16 CENTER AR 234-4723, 3/8 CENTER	350 - FP 1003, CO C5399 400 - FP 1004, CO C5403	FP 1209	MG 52464 CO C5424	HV 1200 (4150 TOP), SP HV 1201 (4500 TOP), SP	JESEL OR T&D WITH MINIMUM .450 OFFSET INTAKE ROCKER, .180 OFFSET LIFTER
-12 SP P, WP 12 SP RI (247 & 262)	N/A	AR 234-4303, 7/16 CENTER AR 234-4723, 3/8 CENTER	350 - FP 1003, CO C5399 400 - FP 1004, CO C5403	FP 1263, CO C5426 (247) CO C5427 (262)	MG 52464 CO C5424	MS 89 (4150 TOP), SP	JESEL OR T&D WITH MINIMUM .450 OFFSET INTAKE ROCKER, .180 OFFSET LIFTER
12 X 12 RP, WP 12 X 12 RP	N/A	BR HS RP/GB CI BLK SK HS RP/GB (ALUM BLK)	350 - FP 1003, CO C5399 400 - FP 1004, CO C5403	MG 815, MG 816 (.030 UNDER) MG 2200	MG 52464 CO C5424	GM 24502653 OR EDELROCK 2955 WITH BRODIX SPACERS	JESEL OR T&D WITH MINIMUM .650 OFFSET INTAKE ROCKER, .180 OFFSET LIFTER
GB 2000, WP GB 2000, WP GB 2200, WP GB 2300, WP GB 2400	N/A	BR HS RP/GB CI BLK(GB 2200, GB 2300) BR HS GB 2200 CI BLK SK HS GB 2200 SK HS GB 2300 SK HS GB 2400 SK HS RP/GB (2000)	350 - FP 1003, CO C5399 400 - FP 1004, CO C5403	MG 2200 CO C5423	MG 52464 CO C5422	GM 24502653 OR EDELROCK 2955 WITH BRODIX SPACERS	JESEL OR T&D WITH MINIMUM .650 OFFSET INTAKE ROCKER, .180 OFFSET LIFTER
BD 1010, WP BD 1010	N/A	BR HS/BD CI BLK (CAST), SK HS/BD (ALUM BLK)	350 - CO C5404 400 - CO C5408	CO C5421	CO C5420	BM 100 & BR CP 1 (4150 TOP), SP BM 102 & BR CP 1 (4500 TOP), SP	JESEL OR T&D WITH MINIMUM .700 OFFSET INTAKE ROCKER, .180 OFFSET LIFTER
WP BD 4510	N/A	SK HS BD45	FP 26476, CO C5215	CUSTOM HAND MADE	CUSTOM SILICONE	BM 100 - CUSTOM	T&D 22002, 88/184 CENTERLINE SPACING
BD 2000, WP BD 2000, WP BD 2300	N/A	BR HS/BD CI BLK (CAST), SK HS/BD (ALUM BLK)	350 - CO C5404 400 - CO C5408	CO C5421	CO C5420	BM 100 & BR CP 1 (4150 TOP), SP BM 102 & BR CP 1 (4500 TOP), SP	JESEL OR T&D WITH MINIMUM .700 OFFSET INTAKE ROCKER, .180 OFFSET LIFTER
CV SP, CV SP 330, CV SP WP	N/A	AR 234-4312	350 - FP 1003, CO C5399 400 - FP 1004, CO C5403	MG 1901 (SMALL PORT) FP 89271 (LARGE PORT)	MG 52464 CO C5424	HV 1900 (4500 TOP), SP	SPECIAL JESEL OR T&D
KC 13 STD	N/A	SK HSSB 13 (ALUM BLK)	350 - FP 1003, CO C5399 400 - FP 1004, CO C5403	MG 1600 MR. GASKET 143	FP 1407	EDELROCK 2955 EDELROCK 2958	JESEL OR T&D WITH 85/134 CENTERLINE SPACING
WP FF 13 STD	N/A	SK HS SB 13/45		CUSTOM HAND MADE	CUSTOM SILICONE	EDELROCK 2846-9 MODIFIED	T&D 2291, 88/184 CENTERLINE SPACING
KC 16 STD	N/A	ARP 234-4726 (CAST IRON) SK HSSB16 (ALUM BLK)	350 - FP 1003, CO C5399 400 - FP 1004, CO C5403	MG 1600 MR. GASKET 143	FP 1407	EDELROCK 2955 EDELROCK 2958	JESEL OR T&D WITH 58/107 CENTERLINE SPACING
WP 15 SP WP 15 STD	N/A	SK HS15C/18C AP (BRODIX ALUM BLK)	350 - FP 1003, CO C5399 400 - FP 1004, CO C5403	MG 1550	MG 52464 (SPREAD PORT) MG 1506 (STD) CO C52464	HV 1500 (4150 TOP) HV 1501 (4500 TOP)	JESEL, T&D OR CROWER WITH 58/107 CENTERLINE SPACING
BP AK 270 BP AK 285	N/A	BR HSAP (BRODIX ALUM BLK)	350 - FP 1003, CO C5399 400 - FP 1004, CO C5403	O-RINGED	MG 52464 CO C5424	FUEL INJECTION	JESEL SHAFT SYSTEM KPS 20592 WITH 95/150 CENTERLINE SPACING
WP LM 12 STD	N/A	SK HSSB 13 (ALUM BLK)	350 - FP 1003, CO C5399 400 - FP 1004, CO C5403	MG 1215	FP 1407	TBA	SHAFT SYSTEM T&D 22076
BP HH SB O 229	ARP 134-3601 MANLEY 42313 MANLEY 42102 (WASHERS)	ARP 234-4301	350 - FP 1003, CO C5399 400 - FP 1004, CO C5403	MG 1229	FP 1406 CO C5415	TBA	STANDARD, JESEL OR T&D WITH 40/60, MINIMUM .220 OFFSET INTAKE ROCKER

ABBREVIATIONS: AR - ARP, BR & MG - BRODIX, CO - COMETIC GASKETS, DP - DUAL PLANE, FP - FEL-PRO, MA - MANLEY, SP - SINGLE PLANE, STD - STANDARD DECK HEIGHT, TALL - TALL DECK HEIGHT