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BCS

Pistons & Rings

Guide



IMPORTERS AND DISTRIBUTORS OF PARTS AND ACCESSORIES
FOR CLASSIC TRIUMPH, BSA AND NORTON MOTORCYCLES
HELPING TO KEEP BRITISH MOTORCYCLES ON THE ROAD SINCE 1977!

BRITISH CYCLE SUPPLY COMPANY PISTON GUIDE

Pistons:

Please specify standard or oversize when ordering. If in doubt, give us exact bore size in thousands of an inch at lower unworn portion and any numbers on top and inside of piston. If the wear toward the top of the bore is over .008", you should rebore and install next oversize pistons available. Please always note your first and second choices for oversize and compression ratio. We have underlined piston set numbers that are still being manufactured, but we still run into some old stock of other numbers, and occasional partial sets, though these are the exception rather than the rule.

Clearances noted in our chart following are **minimums**. Piston skirt clearances are measured at bottom of skirt and at right angles to the pin, and should be increased for larger oversizes, racing, or when a cast iron cylinder has been sleeved. If your machine shop says a rebore is necessary, please wait until you receive pistons before reboring. If you still turn out to need a larger oversize, we will exchange for a small service charge if returned with our authorisation and a copy of the invoice. Larger oversizes may require boring the head gasket bores oversize, too.

General Rules for Ring Installation:

Cylinders should be deglazed before fitting new rings, fully cleaned with hot water and soap, and then oiled. Never reuse old piston rings.

Always ensure you have sufficient ring endgap, checked by using the piston skirt to hold the rings squarely in the lower unworn portion of the bore. While .004" or .005" endgap per inch of bore size is recommended as a minimum, a bit of excess should not create any problem as long as rings are new and piston skirt clearance is correct. Always make sure that rings are free in grooves without excessive up and down play, and that you install them with gaps staggered and none facing directly to the front or rear of the engine. When replacing rings, any markings should always face upwards. If rings are unmarked, any taper on the inside should face up, and any taper on the outside should face down. If chrome rings are fitted, they are always in the top groove.

General Rules for Sleeve Installation:

These tips are intended to be a guide for installing sleeves into cylinders. There are always exceptions to the rule and care must be taken on special applications.

- 1) Interference fit for cylinder sleeve to aluminum bore is .004.
- 2) Interference fit for cylinder sleeve to a cast iron bore is .002 to .003.
- 3) Installation of flange type sleeves follow the same rules, but the top of the cylinder must have a countersink to the correct depth to accept the flanged sleeve.
- 4) Heating the cylinder for 45 minutes to an hour at 350 to 450 degrees is preferable.
- 5) Freeze your sleeve.
- 6) The sleeve should slide in very easily when the cylinder is properly heated.
- 7) Remember to rap the sleeve down after the cylinder has cooled off.
- 8) Milling the top deck of the cylinder always adds a quality touch. A caution here, some cylinders may not be able to have the top surface decked.

SPECIAL NOTES: Piston sets include rings, wrist pins, and circlips except where noted. Measurements in the chart are in inches. Pistons and rings are sourced from a variety of manufacturers where Hepolite production has ceased on many numbers.

SEE THE 441-SERIES IN THE PRICE GUIDE SECTION FOR PISTON PRICES AND THE 442-SERIES FOR PISTON RING PRICES. AVAILABLE OVERSIZES ARE SHOWN THERE. SEE THE 443-SERIES FOR CYLINDER SLEEVES.

<http://www.britcycle.com/Products/443CylinderSleeves.htm>

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BRITISH CYCLE SUPPLY COMPANY PISTON GUIDE

BRAND	MODEL	CYL	YEAR	NOMINAL BORE	COMP.	NOMINAL SKIRT CLEAR.	441-PISTON SET	442-RINGS	443-SLEEVES
BSA	125 BANTAM D1	1	1947-63	2.047		.004	10399	3620	
BSA	150 BANTAM D3	1	1954	2.2244		.004	12543	5560	
BSA	150 BANTAM D3	1	1955-57	2.2244		.004	12923	5560	
BSA	175 D5/D7	1	1958-63	2.4213		.004	14178	10940	
BSA	175 BANTAM D7	1	1964-66	2.4213	7.5:1	.0035	17293	10940	
BSA	175 D10/D14	1	1967-69	2.4213		.0035	17952	23080	
BSA	250 B2/18	1		2.480		.004	7150	3640	
BSA	250 C11/2 OHV	1		2.480	7:1	.004	<u>8267</u>	3640	
BSA	250 C15	1		2.6378	6.5:1		15417	23010	
BSA	250 C15	1		2.6378	7.5:1	.003	<u>15137</u>	23010	
BSA	250 C15	1		2.6378	9:1	.0035	16114	23010	
BSA	250 C15	1		2.6378	10:1	.0045	15305	23010	
BSA/TRI	250 B/T25	1		2.638	10:1	.003	<u>16945</u>	23010	PRE69 180 69ON 187
BSA	250 C25	1		2.6366	10.5:1		17284		
BSA	500 M20	1		3.2283	4.9:1		<u>11957</u>	3670	821
BSA	600 M21	1	1939 ON	3.2283			<u>12659</u>	3920	821
BSA	350 B31	1		2.7953	6.5:1	.0035	<u>15504</u>	4530	
BSA	350 B31	1		2.7953	7.75:1		9939	4530	
BSA	350 B31	1		2.7953	9:1		11813	4530	
*The above pistons for B31 also do B32 to 1952.									
BSA	350 B40	1		3.110	7:1		15544	15490	186
BSA	350 B40	1		3.110	8.75:1	.0035	16687	15490	186
BSA	441 B44	1		3.110	9.5:1	.003	<u>17791</u>	15490	ROUND 186 SQUARE 173
BSA	500 B33	1	1947-52	3.3764	6.8:1	.0035	<u>11341</u>	3680	
BSA	500 B33	1	1947-52	3.3764	7.5:1		<u>11342</u>	3680	
BSA	500 B33	1	1947-52	3.3764	8.5:1		<u>12010</u>	3680	
*The above three pistons are for "long rod" and do B34 "long rod" 1947-57.									
BSA	500 B33	1	1953-60	3.3764	7.5:1	.0035	<u>11744</u>	3680	
BSA	500 B33	1	1953-60	3.3764	8.5:1		12279	3680	
*The above two pistons are for "short rod".									

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BSA	500 B34GS	1	1954	ON	3.344	7.25:1		12804	7700	SHORT	182
BSA	500 B34GS	1	1954	ON	3.344	8.5:1		13012	7700	LONG	248
BSA	500 B34GS	1	1954	ON	3.344	9:1	.003	18527	7700		
BSA	500 B50	1	1971	ON	3.307	10:1	.004	<u>19257</u>	26510	234	
BSA	500 A7	2	PRE	1951	2.4405	7:1		10030	3630	206	
BSA	500 A7	2	PRE	1951	2.4405	6.6:1		11151	3630	206	
BSA	500 A7	2	PRE	1951	2.4405	7.5:1		10739	3630	206	
BSA	500 A7	2	LATE		2.5984	6.66:1		11094	4550	482	
BSA	500 A7	2	LATE		2.5984	7.25:1		<u>11288</u>	4550	482	
BSA	500 A7	2	LATE		2.5984	8:1	.003	11603	4550	482	
BSA	500 A7	2	LATE		2.5984	9.5:1		12058	4550	482	
BSA	500 A50	2			2.5787	9:1	.003	<u>15934</u>	17360	174	
BSA	650 A10	2			2.7555	6.5:1		11016	3650	177	
BSA	650 A10	2			2.7555	7.25:1	.0035	11062	3650	177	
BSA	650 A10	2			2.7555	8:1		11431	3650	177	
BSA	650 A10	2			2.7555	8.5:1	.0035	<u>11787</u>	3650	177	
BSA	650 A10	2			2.756	9:1	.0045	11412	3650	177	
BSA	650 A10	2			2.756	10.5:1	.005	15638	3650	177	
BSA	650 A65	2	ALL YEARS		2.953	7.5:1	.0035	<u>15933</u>	17350	175	
BSA	650 A65	2	ALL YEARS		2.953	9:1	.004	<u>19233</u>	17350	175	
BSA	650 A65	2	ALL YEARS		2.953	10.5:1	.0045	<u>18732</u>	17350	175	
BSA/TRI	TRIPLES	3			2.638	9.5:1	.002	<u>19916</u>	23020	176	
BSA/TRI	TRIPLES	3			2.638	11:1	.0025	19917	23020	176	
NORTON	ES2	1	1948	ON	3.1102	6.45:1	.004	10226	3750	791	
NORTON	ES2	1	1948	ON	3.1102	7.1:1		<u>13346</u>	3750	791	
NORTON	ES2	1	1948	ON	3.1102	7.9:1		11960	3750	791	
NORTON	500	2			2.5984	6.75:1		10533	3730	482	
NORTON	500	2			2.5984	8:1	.003	10338	3730	482	
NORTON	500	2			2.5984	9.2:1		<u>18548</u>	3730	482	
NORTON	500	2			2.5984	9.45:1		11917	3730	482	

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NORTON	600	2		2.6770	7.4:1		<u>13325</u>	7970	142
NORTON	600	2		2.6770	8:1		<u>14629</u>	7970	142
NORTON	600	2		2.6770	8.5:1	.003	<u>18549</u>	7970	142
NORTON	600	2		2.6770	9:1		<u>18553</u>	7970	142
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NORTON	650	2		2.6770	8.9:1	.0045	<u>17839</u>	7970	142
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NORTON	750	2		2.874	7.5:1	.0035	<u>19488</u>	18020	214
NORTON	750	2	EARLY	2.874	8.7:1	.0035	<u>16001</u>	18020	214
NORTON	750	2		2.874	9:1	.0045	<u>19145</u>	26260	214
NORTON	750	2		2.874	10.5:1	.0055	<u>18554</u>	18020	214
NOTE: 26260 rings are for .175 inch deep oil ring groove;18020 rings are for .125 inch deep oil ring groove.									
NOR	810 DUNSTALL	2		76 MM			<u>8901</u>		227
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NORTON	850	2		3.0315	8.5:1	.0045	<u>19342</u>	26730	143
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TRI	150 TERRIER	1		2.2441	9:1		<u>11982</u>	5570	
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TRIUMPH	200 CUB	1		2.4803	7:1	.003	<u>12581</u>	5810	480A
TRIUMPH	200 CUB	1		2.4803	9:1	.0035	<u>12600</u>	5810	480A
TRIUMPH	200 CUB	1		2.4803	10.5:1	.004	<u>13469</u>	10872	480A
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TRIUMPH	250 SINGLES			- PLEASE SEE BSA 250 SINGLES.					
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TRI	350 PREUNIT	2		2.1653	6.3:1		<u>10500</u>	3840	
TRI	350 PREUNIT	2		2.1653	7:1		<u>10499</u>	3840	
TRI	350 PREUNIT	2		2.1653	8:1	.0025	<u>10064</u>	3840	
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TRIUMPH	350 UNIT	2		2.2933	7.5:1		<u>13952</u>	10280	
TRIUMPH	350 UNIT	2		2.2933	9:1	.0035	<u>16986</u>	10280	
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TRI	500 PREUNIT	2		2.4803	7:1		<u>10334</u>	3850	ALLOY 185
TRI	500 PREUNIT	2		2.4803	7.8:1	.003	<u>11563</u>	3850	IRON 480A
TRI	500 PREUNIT	2		2.4803	8:1		<u>12420</u>	3850	
TRI	500 PREUNIT	2		2.4803	8.5:1		<u>18421</u>	3850	
TRI	500 PREUNIT	2		2.4803	9:1	.004	<u>18524</u>	3850	
TRI	500 PREUNIT	2		2.4803	12:1		<u>10652</u>	3850	
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TRIUMPH	500 UNIT	2	PRE-67	2.7165	7:1	.004	<u>15034</u>	13570	290
TRIUMPH	500 UNIT	2	PRE-67	2.7165	9:1	.004	<u>15123</u>	13570	290
TRIUMPH	500 UNIT	2		2.7165	9:1	.004	<u>18786</u>	13570	290
TRIUMPH	500 UNIT	2		2.7165	9.75:1	.004	<u>18782</u>	13570	290

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TRI	500 TRW SV	2		2.480		.004	19119	3850	
TRI	650 IRONHEAD	2		2.795	7:1		<u>11564</u>	11050	291
TRI	650 IRONHEAD	2		2.795	7.5:1		15695	11050	291
TRI	650 IRONHEAD	2		2.795	8.5:1		11134	11050	291
TRI	650 IRONHEAD	2		2.795	8.5:1		12713	11050	291
TRI	650 IRONHEAD	2		2.795	9:1		13414	11050	291
TRIUMPH	650	2		2.795	7.5:1	.003	<u>15897</u>	11050	291
TRIUMPH	650	2		2.795	8:1	.005	13529	11050	291
TRIUMPH	650	2		2.795	8.5:1	.005	13528	11050	291
TRIUMPH	650	2		2.795	8.5:1	.005	<u>15219</u>	11050	291
TRIUMPH	650	2		2.795	9:1	.005	13980	11050	291
TRIUMPH	650	2		2.795	9:1	.005	14087	11050	291
TRIUMPH	650	2		2.795	9:1	.0045	<u>17844</u>	11050	291
TRIUMPH	650	2		2.795	10.5:1	.005	15639	11050	291
TRIUMPH	650	2		2.795	11:1	.005	<u>18514</u>	11050	291
TRI	650 TR65 SHORTSTROKE	2		2.9916			20895	26490	483
MORGO	750 BIGBORE	2		2.975			<u>19074</u>	17350/020	750
ROUTT	750 BIGBORE	2		3.0000			<u>7504</u>		750
TRIUMPH	725	2	EARLY 73	75 MM			18998	17350	
TRIUMPH	750	2		2.9916	7.9:1	.004	<u>20432</u>	26490	483
TRIUMPH	750	2		2.9916	8.5:1	.004	<u>19255</u>	26490	483
TRIUMPH	750	2		2.9916	11:1		19378	26490	483
TRIUMPH	750 TSS	2			9.5:1		717651	997567	925

TRIUMPH 750 TRIPLES - PLEASE SEE BSA TRIPLES.

PLEASE NOTE: SOME NORTON 750 AND TIGER CUB PISTONS USED TWO TYPES OF RINGS. TO AVOID ERRORS, PLEASE MAKE SURE YOU HAVE THE ACTUAL PISTON CASTING NUMBERS AND/OR RINGS DIMENSIONS WHEN ORDERING.



MADE IN ENGLAND

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