



# Bristol 2 Litre Bottom End Parts List

- Cylinder Block & Main Bearings
- Crankshaft
- Camshaft Covers & Sump

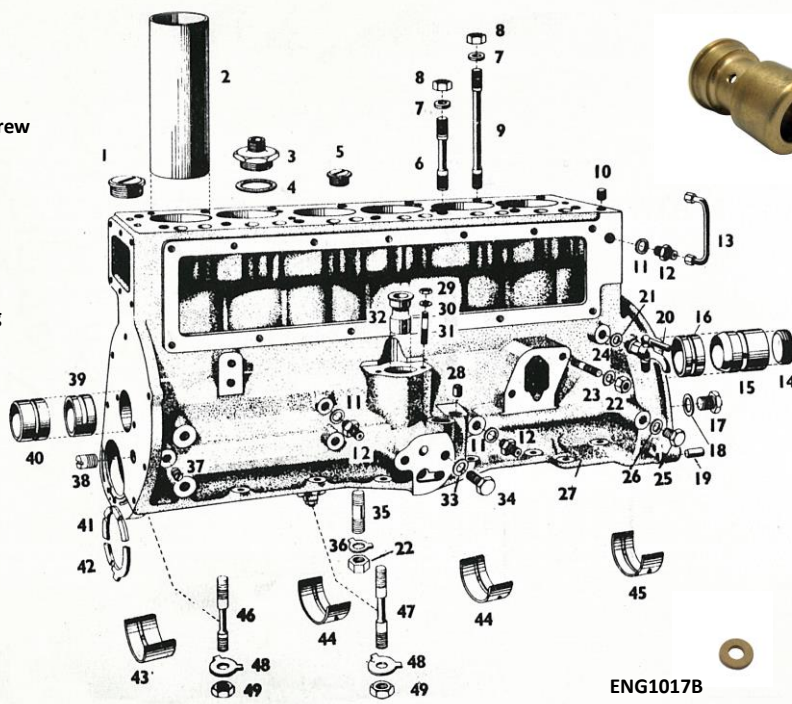
Engine Type 85, 100, 110

FS.109/4D  
9/16" BSF Set Screw

FBS.361-P  
Oil Gallery  
Blanking Plug

N310450  
Oil Gallery  
Blanking Plug

N312700  
Main Bearing  
Stud Nut  
(OE Studs)



ENG1016  
Camshaft  
Skew Gear Bush

ENG1068  
Cylinder Liner



ENG1017A  
Temperature Gauge  
Bulb Sealing Washer



ENG1017B  
Oil Pressure Gauge  
Sealing Washer

ENG1017  
Water Temperature  
Sensor Adapter



Camshaft In-Line Bearing Kit

CAM1004 (Small) for Sports Cam  
*Requires line boring to fit*

CAM1005 (Large) for 49/103, IN01, IN01+ Cam  
*Requires honing to fit*

Part No. Item Description

ENG1221		Oil Pressure Switch Adapter Kit
ENG1203	1	Aluminium Core Plug (Large) (N310480) (1) (Original Block)
ENG1214A1		Aluminium Core Bung (1) (fits with new INRacing block ENG101)
ENG1214B1		Aluminium Core Bung Set (3) (fits with new INRacing block ENG101)
ENG1214C1		Blanking Plug Set (3) (fits with new INRacing block ENG101)
ENG1068	2	Cylinder Liner (N312750)
ENG1017	3	Water Temperature Sensor Adapter (N311540) (with washer N311760)
ENG1017A		Temperature Gauge Bulb Sealing Washer
ENG1017B		Oil Pressure Gauge Sealing Washer
N311760	4	Thermo Union Washer
ENG1222	5	Aluminium Core Plug (Small) (1) (Original block)
ENG1130	6+7+8+9	Cylinder Head Stud Kit – Replaces N314560 + N314550 (inc. nuts & washers)
ENG1175	7	Cylinder Head Nut Washer (N312420)
ENG1049	8	Head Stud Nut 3/8" UNF
N310910	11	Oil Transfer Pipe Union Washer
ENG1209	12	Oil Transfer Pipe Adapter (N311730)
N311520	12+13	Oil Transfer Pipe Unit
ENG1218		Oil Transfer Pipe Union (inc. Olive) – Part of N311520
ENG1213	14	Camshaft Blank Plug (N311420)
CAM1004	15+16+39+40	Standard Camshaft Bearing Kit Inc. Blank Plug (In line) (N310680 + N311370 + N311360 + N312410)
CAM1005	15+16+39+40	Oversize Camshaft Bearing Kit Inc. Blank Plug (In line) (N310680 + N311370 + N311360 + N312410)
FS.109/4D	17	9/16" BSF Set Screw
N314380	18	9/16" Set Screw Aluminium Washer
N312010	20+21	Drain Tap (including washer FBS.515)
FN.105/L	22+23	Petrol Pump Nut + Spring Washer (FBS.515)
N312580	24	Petrol Pump Stud
N310450	25+26	Oil Gallery Blank Plug + Washer
ENG101	27	INR Cylinder Block (N314610) New
FN.104/L	29	1/4 BSF Plain Nut
N312590	31	Distributor Tower Stud
ENG1016	32	Camshaft Skew Gear Bush (N310710)
N312800	34	Oil Cleaner Bolt
N312600	35	Oil Pump Stud
FBS.361/P	38	Oil Gallery Blanking Plug (Replaces)
ENG1098/STD	41+42	Crankshaft Thrust Washer Set (Standard) 2 x N313590 + 2 x N313600
ENG1098/005	41+42	Crankshaft Thrust Washer Set (+0.005/+5 thou) 2 x N313590 + 2 x N313600
ENG1099/STD*	43+44+45	Crankshaft Main Bearing Set – Standard
ENG1099/10*	43+44+45	Crankshaft Main Bearing Set – +0.010/+10 thou
ENG1099/20*	43+44+45	Crankshaft Main Bearing Set – +0.020/+20 thou
ENG1099/30*	43+44+45	Crankshaft Main Bearing Set – +0.030/+30 thou
ENG1099/040*	43+44+45	Crankshaft Main Bearing Set – +0.040/+40 thou
ENG1099/STD-0**	43+44+45	Crankshaft Main Bearing Set – Standard
ENG1099/10-0**	43+44+45	Crankshaft Main Bearing Set – +0.010/+10 thou
ENG1099/20-0**	43+44+45	Crankshaft Main Bearing Set – +0.020/+20 thou
ENG1099/30-0**	43+44+45	Crankshaft Main Bearing Set – +0.030/+30 thou
ENG1099/40-0**	43+44+45	Crankshaft Main Bearing Set – +0.040/+40 thou
ENG1173	46+47	Main Bearing End Cap Stud Set – replaces N313580 + N312680 (includes nuts)
ENG1129		Bottom End Gasket Set
		Side Plate + Breather Cap + Breather + Distributor Tower + Tachometer + Oil Filter
		Housing + Timing Cover + Fuel Pump + Oil Pump Pick Up + Oil Pump + Sump Set
N312700	49	Main Bearing Stud Nut (OE studs) (1)

ENG1218  
Oil Transfer Pipe  
Union (inc. Olive)  
Adapter

ENG1209  
Oil Transfer  
Pipe Adapter

N311520  
Oil Transfer Pipe Unit

N312590  
Distributor Tower  
Stud

N312600  
Oil Pump Stud

ENG1221  
Oil Pressure Switch  
Adapter Kit

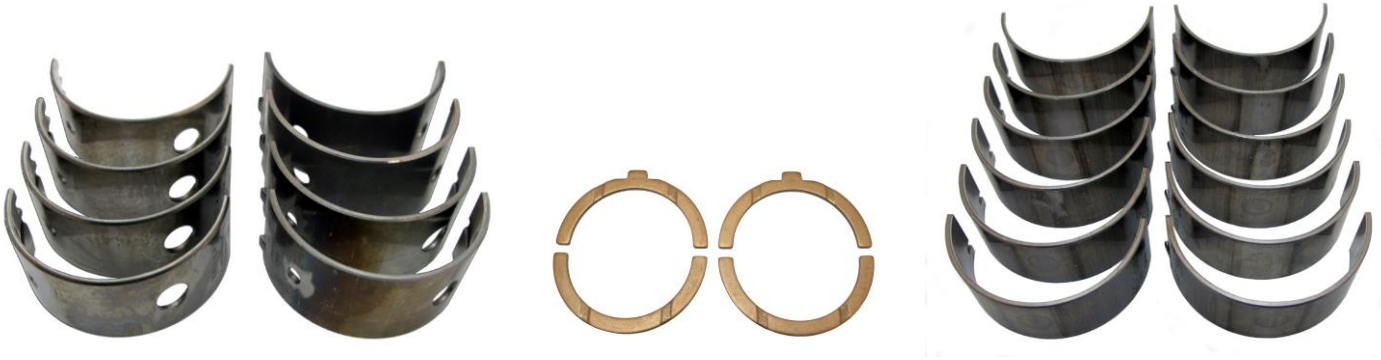
ENG1214  
Core Bung

ENG1214C Blanking Plug Set (3)  
(New INR Heads Only)

ENG1213  
Camshaft Blank Plug



# Cylinder Block Group & Main Bearings



Main Bearing Set

ENG1099/STD	Standard
ENG1099/10	+0.010
ENG1099/20	+0.020
ENG1099/30	+0.030
ENG1099/40	+0.040

Thrust Washer Set

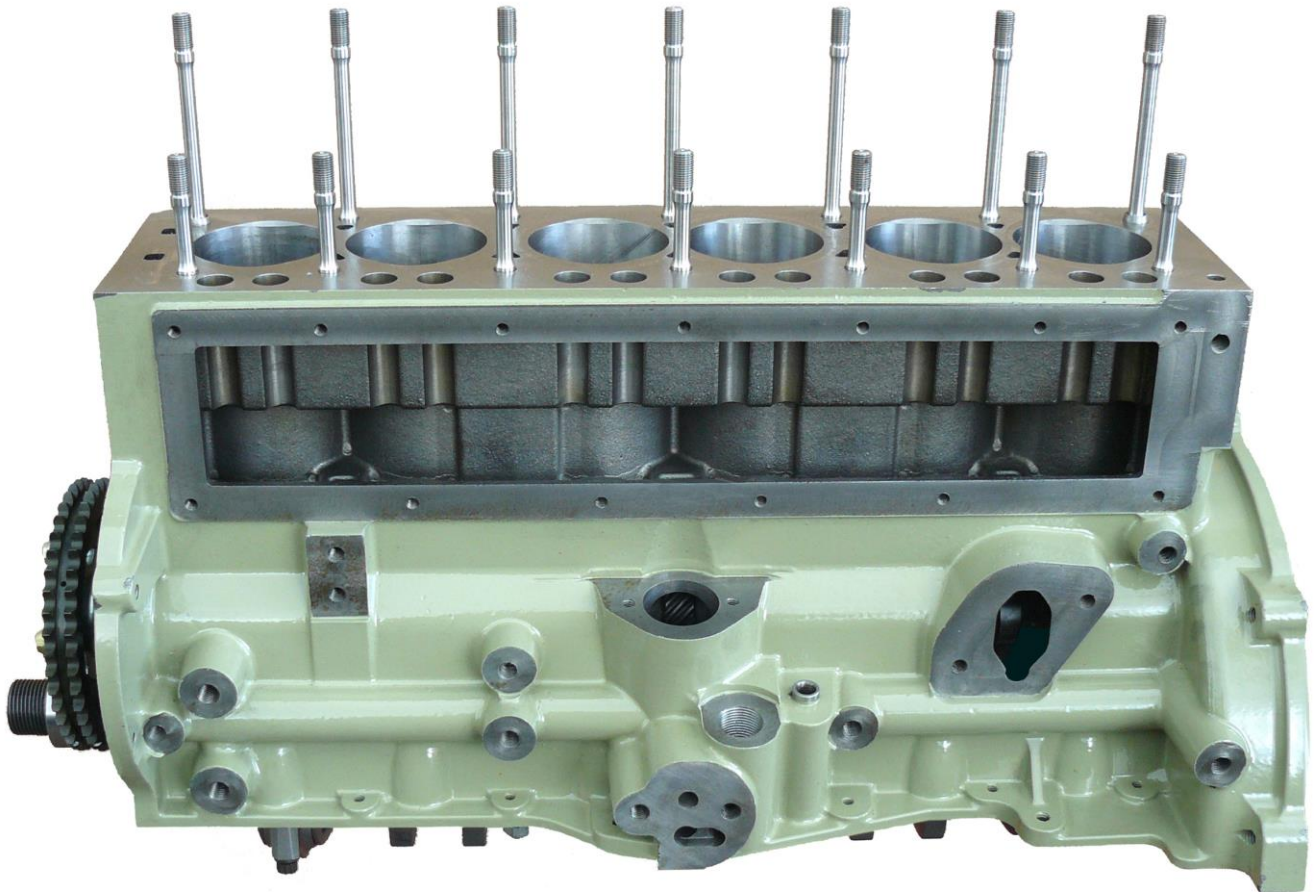
ENG1098/STD	Standard
ENG1098/005	+0.005
ENG1098/010	+0.010

Big End Bearing Set

ENG1100/STD	Standard
ENG1100/010	+0.010
ENG1100/020	+0.020
ENG1100/030	+0.030
ENG1100/040	+0.040

Please Note: The tang on the main bearings is in a different location to the original bearings and the block needs modifying to suit.

**When ordering bearings, please can you give us as much detail of the existing bearings as possible. For example, the width of bearing. Are the con-rods offset or non-offset, and are they splash fed or pressure fed.**



New blocks are supplied with ENG1173 Main bearing studs, nuts and bearing caps, Plus cam bearings fitted and machined to suit your choice of camshaft.

ENG101 New INR Cylinder Block (N314610)



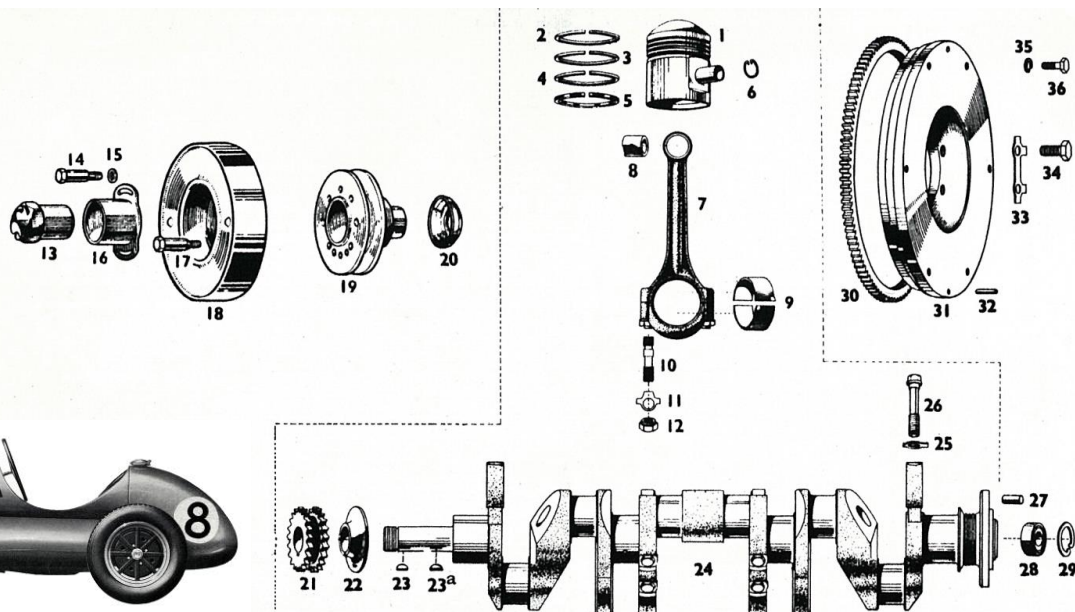
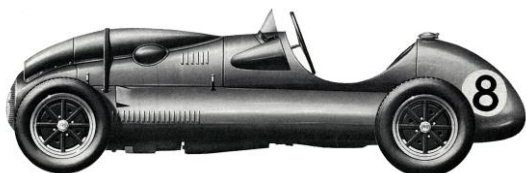
ENG1173

Main Bearing End Cap Stud Set  
Including nuts and washers



ENG1130

Cylinder Head Stud Kit  
Including nuts and washers



Part No.	Item No.	Description
ENG3478C	1+2+3+4+5	Cosworth Forged Piston Set 66mm (6) (fit std rods)
ENG3480C	1+2+3+4+5	Cosworth Forged Piston Set 66.5mm (6) (fit std rods) 9.5:1
ENG3479C	1+2+3+4+5	Cosworth Forged Piston Set 67mm (6) (fit std rods)
ENG3488	2+3+4+5	Cosworth Piston Ring Set 66mm (6)
ENG3490	2+3+4+5	Cosworth Piston Ring Set 66.5mm (6)
ENG3489	2+3+4+5	Cosworth Piston Ring Set 67mm (6)
ENG3481	1+2+3+4+5	INRacing Forged Racing Piston Set 66.5mm (6)
ENG3482	1+2+3+4+5	INRacing Forged Racing Piston Set 66mm (6)
ENG3483	2+3+4+5	INRacing Piston Ring Set 66mm (6)
ENG3484	2+3+4+5	INRacing Piston Ring Set 66.5mm (6)
ENG3481A	1+2+3+4+5	Arias Forged Piston Set 66.5mm (6)
CW15	6	Gudgeon Pin Circlip (1) (Wossner Pistons)
F014/A	7	INRacing Con Rod Set (6) - Oversize (long rod for short piston)
ENG3480W	7	INRacing Con Rod Set (6) - (Standard type) - UNDER DEVELOPMENT -
CA033A	7	Arrow Con Rod Set - Racing (6) - fits CA032 Racing Crankshaft
CA033	7	INRacing Racing Con Rod Set (6) - fits CA032 Crankshaft
CA033S	1+2+3+4+5+7	INRacing Racing Piston & Con-Rod Set (6) - fits CA032 Crankshaft
CA034S	1+2+3+4+5+7+24	INRacing Racing Crankshaft (CA032) + Forged Piston (6) + Con-Rod Set (6) (CA033S)
ENG1013	8	Con Rod Small End Bearing Set (6)
ENG1100/STD	9	Crankshaft Big End Bearing Set - Standard
ENG1100/10	9	Crankshaft Big End Bearing Set - +0.010
ENG1100/20	9	Crankshaft Big End Bearing Set - +0.020
ENG1100		Engine Bearing Set (Main + Big End + Thrust) (Specify sizes when ordering)
CA035	10	Con Rod Bolt Set (12) (Fit with CA033 Connecting Rods)
ENG1024	13	Crankshaft Nut - Large nose (Replaces N333690)
ENG1024A	13	Crankshaft Nut - Small nose (Replaces N333470)
N333430	14	Damper Bolt (Non-Tapered)
N333420	17	Damper Bolt (Tapered)
ENG1211	18	Damper Rubber (N333460)
TIM1005	18	Fluid Damper
TIM1006	18	ATI Harmonic Damper
TIM1006A	18+19	ATI Crankshaft Pulley Set - ATI Crankshaft Damper, Pulley, Nuts - Large
TIM1006S	18+19	ATI Crankshaft Pulley Set - ATI Crankshaft Damper, Pulley, Nuts - Small
TIM1004A	18+19	Fluid Crankshaft Pulley Set - Fluid Crankshaft Damper, Pulley, Nuts - Large
TIM1005A	18+19	Fluid Crankshaft Pulley Set - Fluid Crankshaft Damper, Pulley, Nuts - Small
TIM1003	18+19	INR Harmonic Crankshaft Pulley - Crankshaft Damper, Pulley, Nut & Mods - Large
TIM1003A	19	Crankshaft Pulley Only - Large nose (fits original damper and fluid damper)
TIM1003S	19	Crankshaft Pulley Only - Small nose (fits original damper and fluid damper)
TIM10061	19	ATI Crankshaft Pulley Only - Large Nose
TIM10062	19	ATI Crankshaft Pulley Only - Small Nose
TIM1001	21	Crankshaft Gear - Small nose (like N332630)
TIM1001/INR	21	Crankshaft Gear - Large nose
ENG1012	22	Crankshaft Thrust Plate (Front Washer)
N332600	23	Woodruff Key - Pulley - 100C Engine
N332620	23a	Woodruff Key - Timing Gear - 100C Engine
N332520	23 + 23a	Woodruff Key - Timing Gear & Pulley - 100D Engine
CA032	24	Racing Crankshaft
ENG1190-2	28	Spigot Bearing - Rubber Shielded (N330770)
N330780	29	Spigot Bearing Clip (N330780)
ENG1179	30	Flywheel Ring Gear (OE Design N331990)
ENG1189A		Billet Steel Flywheel / Ring Gear Assembly <i>Replaces N331590 + N331990 (requires starter motor ENG1169A)</i>
N332060	34	Flywheel Bolt (1) 3/8" BSF
ENG1219	34	Flywheel Bolt Set 3/8" BSF (6) (N332060)
ENG1219R	34	Flywheel Bolt Set (6) ARP (CA032 Race Crank)



**TIM1003A**  
Crankshaft Pulley Only  
Large nose



**TIM1003S**  
Crankshaft Pulley Only  
Small nose



**TIM1006**  
ATI Harmonic Damper  
Dampens out torsional vibration through the crank



**TIM1006A** Crankshaft Pulley & ATI Damper (Large Nose)  
**TIM1006S** Crankshaft Pulley & ATI Damper (Small Nose)



**TIM1004A** Crankshaft Pulley & Fluid Damper (Large Nose)  
**TIM1005A** Crankshaft Pulley & Fluid Damper (Small Nose)



# Crankshaft



**CA032 Racing Crankshaft for Bristol 2 litre Engine Types 100 C, D & D2 96mm Stroke.**

**Conrods required CA033 (6)**

**CA033 INR Racing Connecting Rod Set (6) (CA032 Crank) CA033S Racing Piston & Con-Rod Set (6) (CA032 Crank)**  
**CA034S Racing Crankshaft + Forged Piston + Con-Rod Set (6) (CA032 Crank)**



**Piston Ring Set**

Available for all sizes of INRacing and Cosworth pistons  
 66mm, 66.5mm and 67mm



**CW15 Gudgeon Pin Circlip (1)**



**Woodruff Keys**



**INRacing Forged Racing Piston & Ring Set**  
 Fits INRacing rods

ENG3481 - 66.5mm  
 ENG3482 - 66.00mm



**Cosworth Forged Racing Piston & Ring Set**  
 Fits standard rods

ENG3478C - 66mm  
 ENG3480C - 66.5mm 9.5:1  
 ENG3479C - 67mm



**EN1013 Con Rod Small End Bearing Set**



**CA035 Con Rod Bolt Set**  
 To fit with CA033 Con Rods



**CA033 INRacing Con Rod Set**

Racing Rods to fit with our Racing Pistons ENG3481 or ENG3482. Fits with our CA032 Racing Crankshaft.



**EN1219 INR Flywheel Bolt Set**  
 For standard crank (aircraft quality)



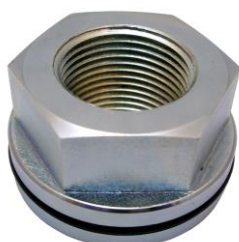
**EN1219R INR Flywheel Bolt Set**  
 For INRacing CA032 Racing Crank



**EN1219C Clutch Cover Bolt Set**

**ENG1189A Lightweight Billet Flywheel**  
 This steel billet flywheel needs fitting with a pre-engaged starter motor.

We would recommend our **ENG1169A Hi-Torque Starter Motor Conversion** (Although not essential)



**ENG1024 Crankshaft Nut Large Nose**



**ENG1012 Crankshaft Thrust Plate**



**TIM1001/INR Crankshaft Gear Large Nose**



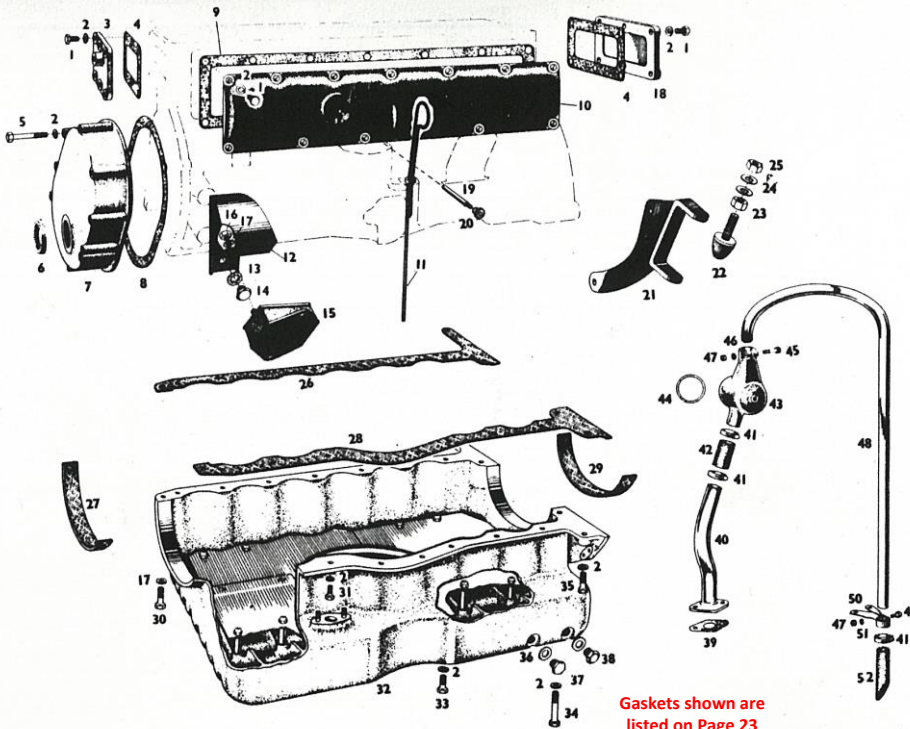
**TIM1001 Crankshaft Gear Small Nose**



**N330780 Spigot Bearing Clip**



**ENG1190-2 Spigot Bearing**



Gaskets shown are  
listed on Page 23



Bristol 403

TIM1139  
Timing Chain Tensioner  
Kit (Spring) Pair



TIM1193  
Timing Chain Guide (Fixed)  
Mounts inside timing cover



ENG1035  
Engine Breather Pipe  
(N314280)

TIM1015  
Modern Timing Cover Seal  
Large Nose for TIM1208  
(INRacing modified covers only)



TIM1206  
Felt Timing Cover Seal  
Large Nose OE Design



TIM1216  
Modern Timing Cover Seal  
Small Nose  
(INRacing modified covers only)



TIM1207  
Felt Timing Cover Seal  
Small Nose OE Design



Part No.	Item No.	Description
ENG1182	3	Alloy Blanking Plate Front (Like N311130)
ENG1183	3	Magnesium Blanking Plate Front (Like N311130)
ENG1112	4	End Plate Gaskets (2) (N311140)
TIM1206	6	Felt Timing Cover Seal Large Nose – OE Design (N311181)
TIM1207	6	Felt Timing Cover Seal Small Nose – OE Design (N314440)
TIM1015	6	Timing Cover Seal – Large Nose – for TIM1208 (Modern type seal)
TIM1016	6	Timing Cover Seal – Small Nose (Modern type seal)
TIM1208	7	Timing Cover – Large Nose – inc. modern type seal (Replaces N314440)
TIM1208-2	7	Timing Cover – Small Nose – inc. modern type seal
TIM1205	7	Timing cover Overhaul in our workshop
TIM1139		Timing Chain Tensioner Kit (Spring) Pair
TIM1193		Timing Chain Guide (Fixed) Fits inside timing cover
ENG1113	8	Timing Cover Gasket 2 Litre (N311170)
ENG1113A	8	Timing Cover Gasket 2.2 Litre
ENG1121	9	Push Rods Side Plate Gasket (N310200)
ENG1180	10	Alloy Push Rod Cover (Like N313410)
ENG1181	10	Magnesium Push Rod Cover (Like N313410)
ENG1177	15	Engine Mounting (N311270)
ENG1184	18	Alloy Blanking Plate Rear (Like N312370)
ENG1185	18	Magnesium Blanking Plate Rear (Like N312370)
ENG1225	21	Torque Buffer Bracket
GBX1211	22	Torque Buffer (N311280)
FN.107/L	23	7/16" BSF Nut
ENG1124	26+27+28+29	Sump Gasket Set (N313290 + N310160 + N313280 + N312360)
ENG102	32	INR Sump with bolts – Fits new block
ENG1025	38	Sump Bung (replaces N314450)
ENG1114	39	Breather Pipe Gasket (N313320)
FN.104/L	47	1/4" BSF Nut
ENG1035	48	Engine Breather Pipe (N314280)
ENG1217		Sump Plate Gasket – Magnesium Sump (Race engines)

TIM1205  
We can recondition your own  
timing cover, including fitting our  
new modern type seal - large or  
small nose crank types.



TIM1208  
Timing Cover  
(Large Nose Crank)

TIM1208-2  
Timing Cover  
(Small Nose Crank)

including modern type seal



Bristol 404



# Camshaft Covers & Sump



ENG1182 (Like N311130)  
Blanking Plate Front - Alloy



ENG1184 (Like N312370)  
Blanking Plate Rear - Alloy



ENG1183  
Blanking Plate Front - Magnesium



ENG1185  
Blanking Plate Rear - Magnesium



ENG1180  
Pushrod Cover - Alloy

ENG1181  
Pushrod Cover - Magnesium



ENG1177  
Engine Mounting  
(2 required per engine)



ENG1225  
Torque Buffer Bracket



GBX1211  
Torque Buffer

