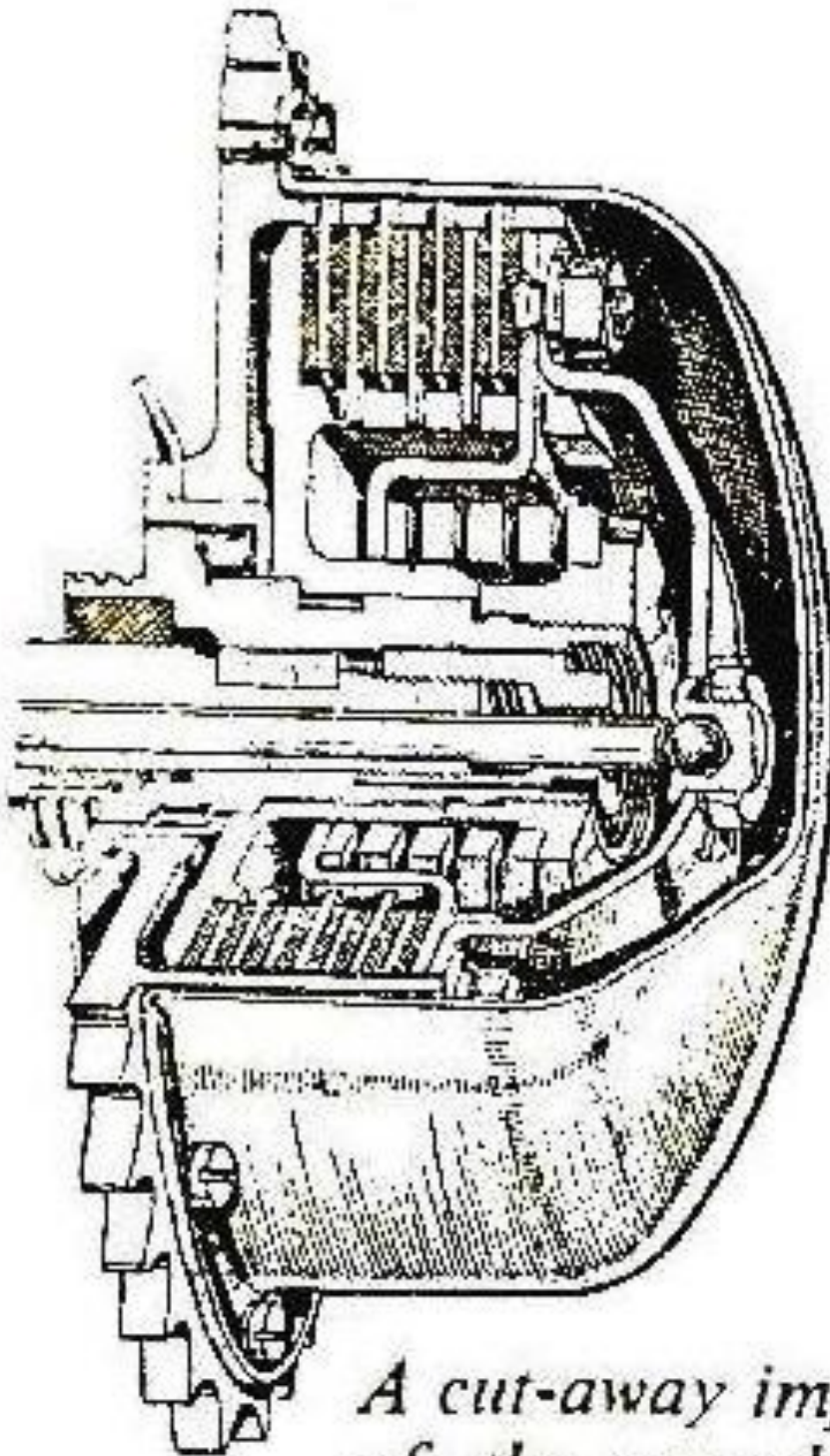


**BSA M20 GEARBOX CLUTCH ILLUSTRATED PARTS LIST and
ASSEMBLY INSTRUCTIONS**



*A cut-away impression
of the assembled clutch.*

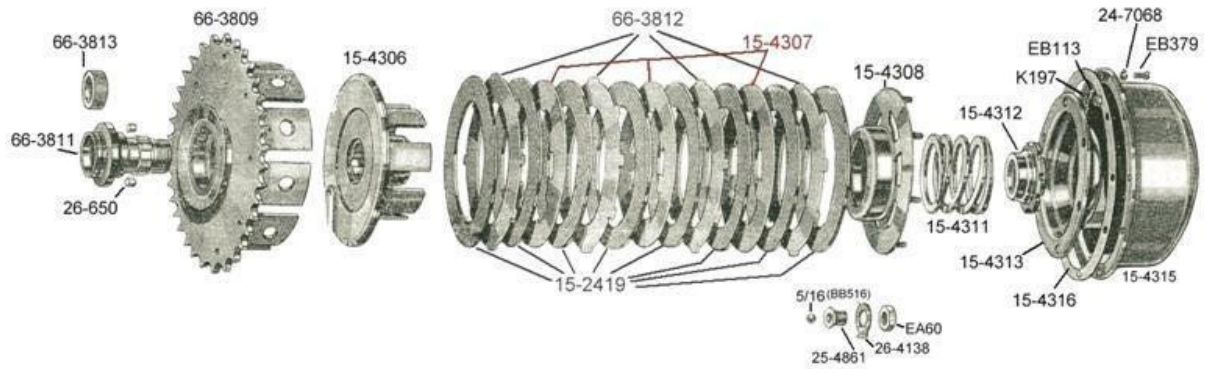
**BSA M20 GEARBOX CLUTCH ILLUSTRATED PARTS LIST and
ASSEMBLY INSTRUCTIONS**

NAME	PART NUMBER & QTY
Clutch Assembly	66-3808
Clutch Chainwheel, with roller race	66-3809
Clutch Chainwheel Roller (1/4 X 1/4 inch roller)	26-0650 (22)
Clutch Sleeve	66-3811
Clutch Sleeve Cork Ring	66-3813
Clutch Centre	15-4306
Clutch Ferodo Ring	15-2419 (8)
Clutch Driving Plate	66-3812 (4)
Clutch Driven Plate	15-4307 (3)
Clutch Sliding Plate, with L bolts	15-4308
Clutch Sliding Plate Bolt Nut	EB113 (6)
Clutch Sliding Plate Bolt Nut Spring Washer	K197 (6)
Clutch Spring	15-4322
Clutch Spring Retaining Nut	15-4312
Clutch Operating Cap Assembly	15-4313
Clutch Operating Cap Bush	25-4861
Clutch Operating Cap Bush Ball (5/16 Dia.)	
Clutch Operating Cap Bush Locknut	EA60
Clutch Operating Cap Bush Locking Washer	26-4138
Clutch Cover	15-4315
Clutch Cover Joint Washer	15-4316
Clutch Cover Screw	EB379 (8)
Clutch Cover Screw Spring Washer	24-7068 (8)
Key 1/4 inch X 1/2 inch	

END OF LIST

Please see the parts list for the contract your bike was built under in the parts book chapter.

BSA M20 GEARBOX CLUTCH ILLUSTRATED PARTS LIST and ASSEMBLY INSTRUCTIONS

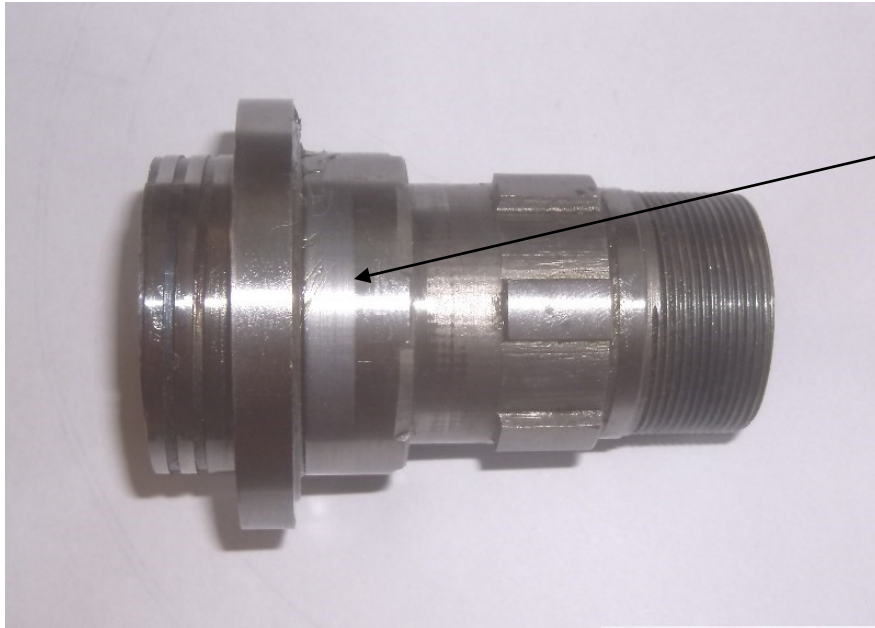


Chainwheel showing roller race. The six holes on the periphery are for the



"top hat" clutch cover. Part # 66-3809

**BSA M20 GEARBOX CLUTCH ILLUSTRATED PARTS LIST and
ASSEMBLY INSTRUCTIONS**



Rollers ride here

This surface must
show no wear.

Clutch Sleeve
66-3811

An Ebay (UK) listing for 1/4 X 1/4
rollers. DO NOT use metric rollers
as they are too large. Remember,
this is an inch bike.



**BSA M20 GEARBOX CLUTCH ILLUSTRATED PARTS LIST and
ASSEMBLY INSTRUCTIONS**



Cork Clutch Sleeve
PN 66-3813

Clutch Center
15-4306



**BSA M20 GEARBOX CLUTCH ILLUSTRATED PARTS LIST and
ASSEMBLY INSTRUCTIONS**



Clutch Ferodo Ring

Part Number 15-2419
(8)

Clutch Driving
Plate

Part Number
66-3812 (4)



**BSA M20 GEARBOX CLUTCH ILLUSTRATED PARTS LIST and
ASSEMBLY INSTRUCTIONS**

Clutch Driven Plate

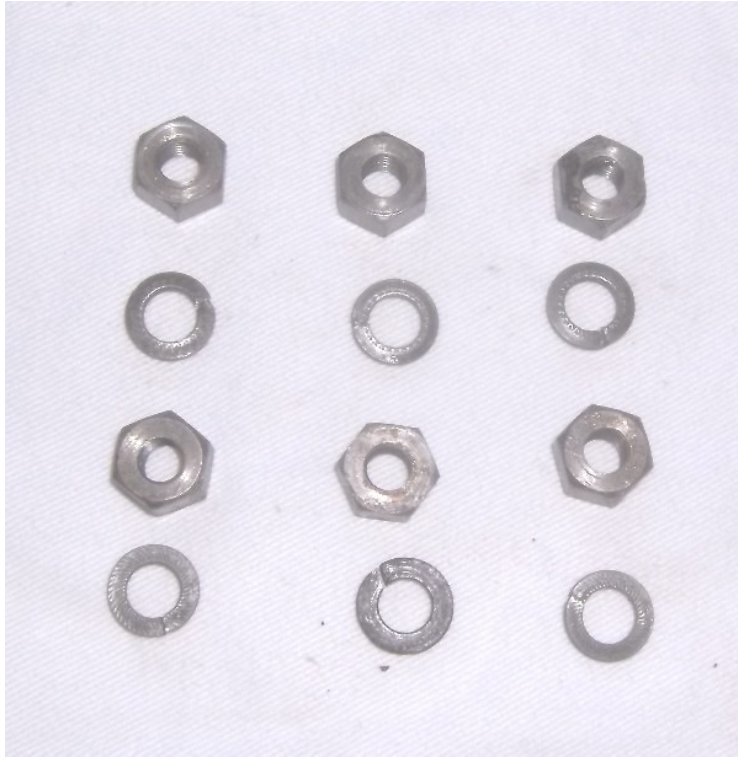
Part Number 15-4307
(3)



Clutch sliding Plate
Part Number
15-4308



**BSA M20 GEARBOX CLUTCH ILLUSTRATED PARTS LIST and
ASSEMBLY INSTRUCTIONS**



Clutch Sliding Plate Bolt Nut
EB113 (6) 1/4 BSCY
Clutch Sliding Plate Bolt Nut
Spring Washer K197 (6)
See drawings for these parts
in file "Clutch Drawings".

Clutch Spring
Part Number 15-4322



**BSA M20 GEARBOX CLUTCH ILLUSTRATED PARTS LIST and
ASSEMBLY INSTRUCTIONS**



Clutch Spring
Retaining Nut
Part Number
15-4312



**BSA M20 GEARBOX CLUTCH ILLUSTRATED PARTS LIST and
ASSEMBLY INSTRUCTIONS**



Operating Cap Assembly
Part Number 15-4313

Clutch Operat-

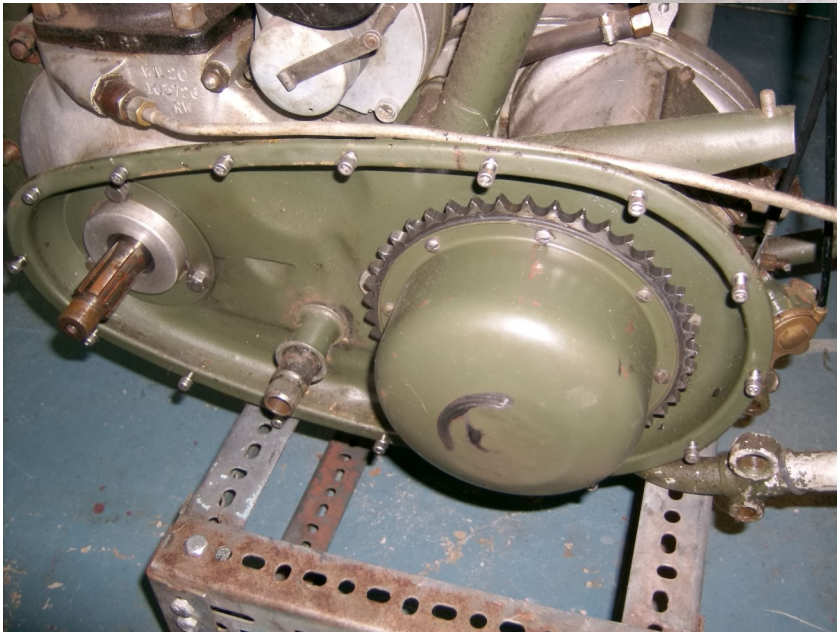


**BSA M20 GEARBOX CLUTCH ILLUSTRATED PARTS LIST and
ASSEMBLY INSTRUCTIONS**



Clutch Operating Cap Bush
Part Number 25-4861

Clutch Cover Part number 15-4315
"top hat"



Clutch cover in situ.

BSA M20 GEARBOX CLUTCH ILLUSTRATED PARTS LIST and ASSEMBLY INSTRUCTIONS



Clutch Cover Gasket
Part Number
15-4316

The Clutch Cover Screws are 2BA, about 1/4 inch long
The Clutch Cover Screw Spring Washers are just common hardware store items.

You can use SAE machine screws #10-32 and appropriate spring washers also. I do not know if there is a Metric equivalent.

The following two pages are BSA official service sheets. There is a typo that has been often quoted and used. The puller in reference here is actually 26 TPI. I know, as I scrapped a beautiful puller I made in 24 TPI with threads cut on my lathe. What they don't tell you is that the clutch can come off complete as a unit incase you do not want to dis-assemble it. Simply remove the sleeve nut only. Then you can use the puller to jack the clutch off the taper. Watch out for the shaft key. They are easy to make, but why loose it in he first place?

BSA M20 GEARBOX CLUTCH ILLUSTRATED PARTS LIST and ASSEMBLY INSTRUCTIONS

BSA SERVICE SHEET No. 610

"M" Group Models

October, 1948

Reprinted October, 1958

DISMANTLING AND RE-ASSEMBLING THE CLUTCH

NOTE:—The clutch described in this sheet is fitted to all "M" group models up to Engine No. YM—101
For later models see Service Sheet No. 308.

Take off the left footrest and then undo all the screws round the rim of the chaincase. The nuts off these screws are welded to the other half of the case, and so cannot get lost. As the outer chaincase cover is taken off, careful note should

be taken off after removal of the six nuts. By unscrewing the central ring nut all the clutch plates, both steel and fabric, will be released. Take care that the spring does not fly off as the nut is removed.

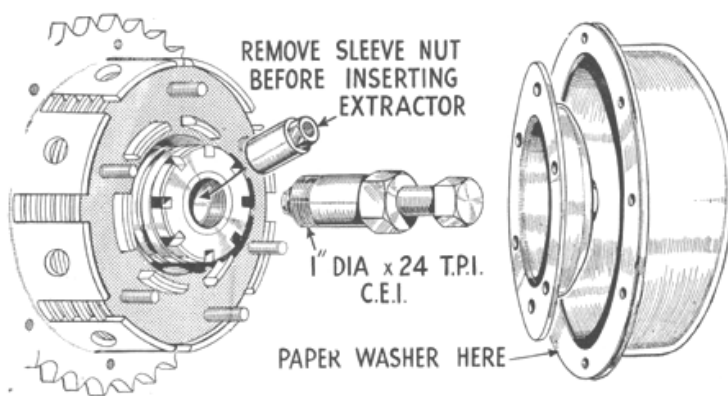


Fig. M36. Clutch extractor tool No. 4.

be made of the positioning of the washers, etc., for replacement purposes (see Fig. M25). The joint washer should be carefully preserved.

The clutch cover is next to be removed exposing the clutch pressure plate, which in turn can be

The clutch hub is held to the gearbox mainshaft by means of a sleeve nut through which the clutch push rod will be seen to protrude. Unscrew this nut and apply the extractor as shown in Fig. M36, thus drawing the remainder of the clutch off the mainshaft.

The various parts may now be examined for wear. Special attention should be paid to the slots in which the steel plates slide and if any grooves worn in them are not too deep the sides of the slots can be filed smooth. If the sprocket teeth are worn to a hook shape the sprocket must be replaced, otherwise rapid chain wear will result.

The steel plates should be smooth and if they are badly scored should be replaced, while the fabric rings will require a thorough washing in petrol if there is any trace of oil on them. Finally, examine the rollers and tracks and verify that the cork washer is intact.

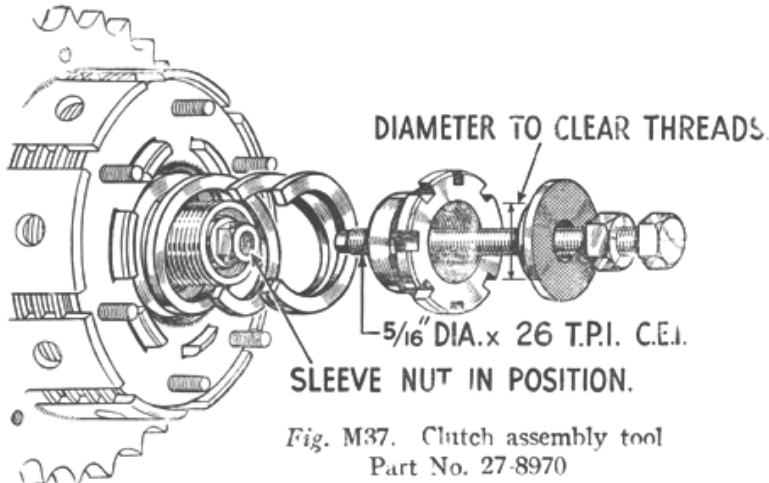
BSA M20 GEARBOX CLUTCH ILLUSTRATED PARTS LIST and ASSEMBLY INSTRUCTIONS

B.S.A. Service Sheet No. 610 (*continued*)

RE-ASSEMBLY OF THE CLUTCH.

The clutch is of straight-forward construction, and a study of Fig. M38 will show how the parts are assembled. It is important to note that the

sliding plate (in rear half of chaincase) with gear-box mainshaft, refit clutch assembly to mainshaft after cork washer and key have been placed in position. Screw home and well tighten sleeve nut.



cork washer must not be omitted as this is for the purpose of preventing oil reaching the clutch. The plates must be fitted in their proper order, as follows: Fabric disc, driven plate (tongues on outer diameter), fabric disc, driving plate (tongues on inner diameter), etc., starting and finishing with a fabric disc of which there are eight.

Difficulty may be experienced in compressing the spring before the central ring nut can be started on its threads, and a suitable bolt and washer used as illustrated in Fig. M37 will enable the spring to be compressed sufficiently for the ring nut to be screwed home.

No adjustment is provided for altering the tension of the spring and the ring nut must be screwed up tight. After carefully centralising

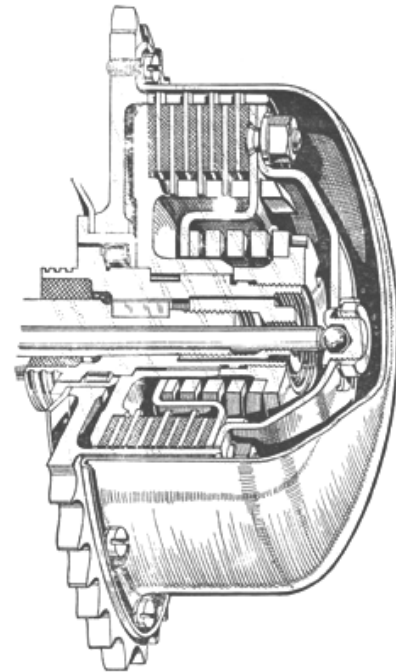
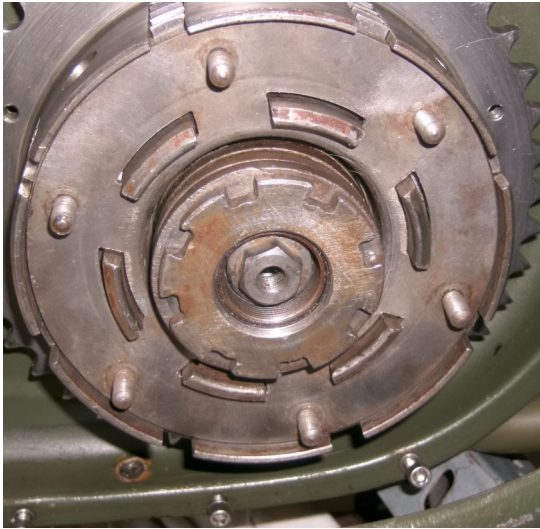


Fig. M38
Section through clutch.

Refit clutch actuating cap (first smearing small quantity of grease on ball in centre) and finally replace clutch cover. When replacing the clutch cover verify that the paper washer is in position and it should be lightly smeared with jointing compound before assembly, to ensure an oil-tight joint.

BSA M20 GEARBOX CLUTCH ILLUSTRATED PARTS LIST and ASSEMBLY INSTRUCTIONS

REMOVAL OF THE CLUTCH FROM THE GEARBOX

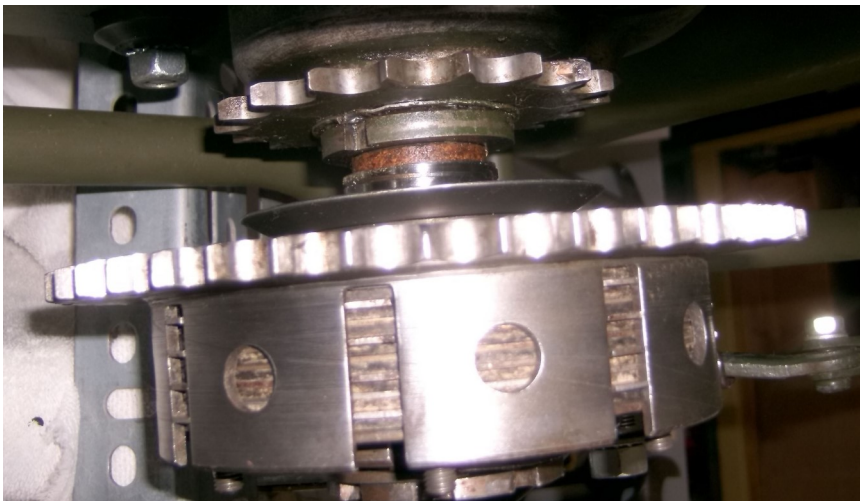
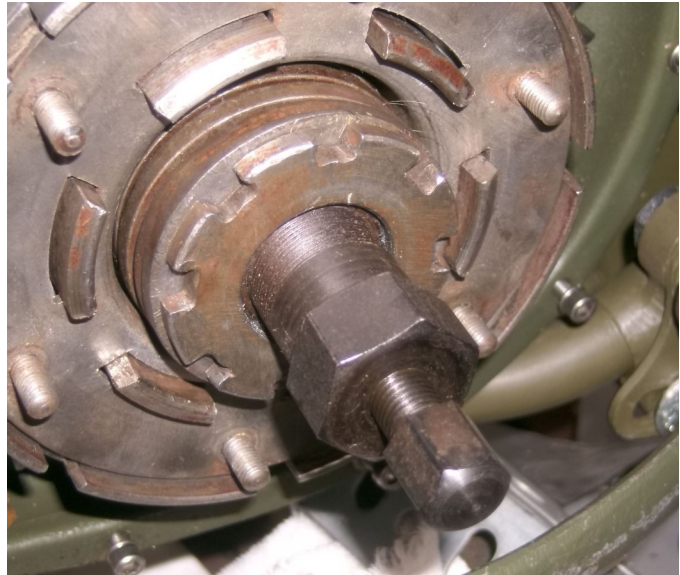


Step 1

Remove the sleeve nut as per service sheet instructions. This nut is what really holds the clutch assembly onto the gear-box output shaft. The clutch pushrod runs through the central hole.

Step 2

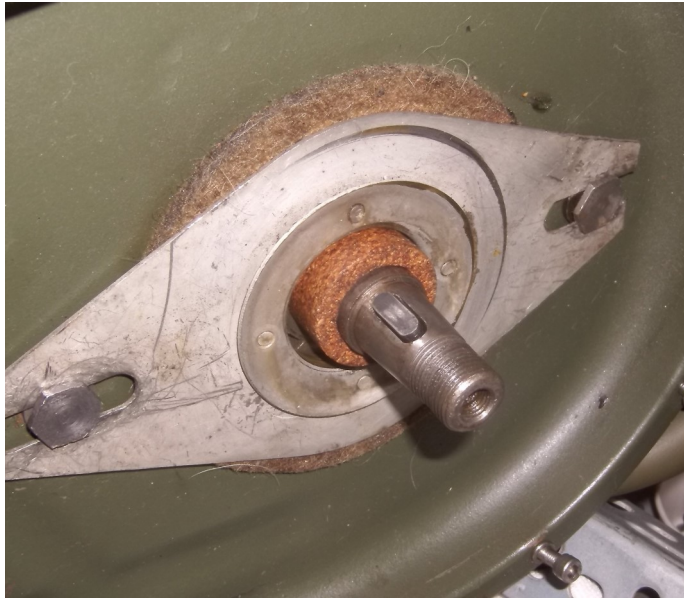
Extractor in place. You may have to add a short piece of rod or a small socket to give you enough length for the jack screw. Use a large wrench to keep the assembly from rotating. It will come off as tapers are great for holding. Slow but steady here.



Step 3

Clutch coming off as a unit.

BSA M20 GEARBOX CLUTCH ILLUSTRATED PARTS LIST and ASSEMBLY INSTRUCTIONS



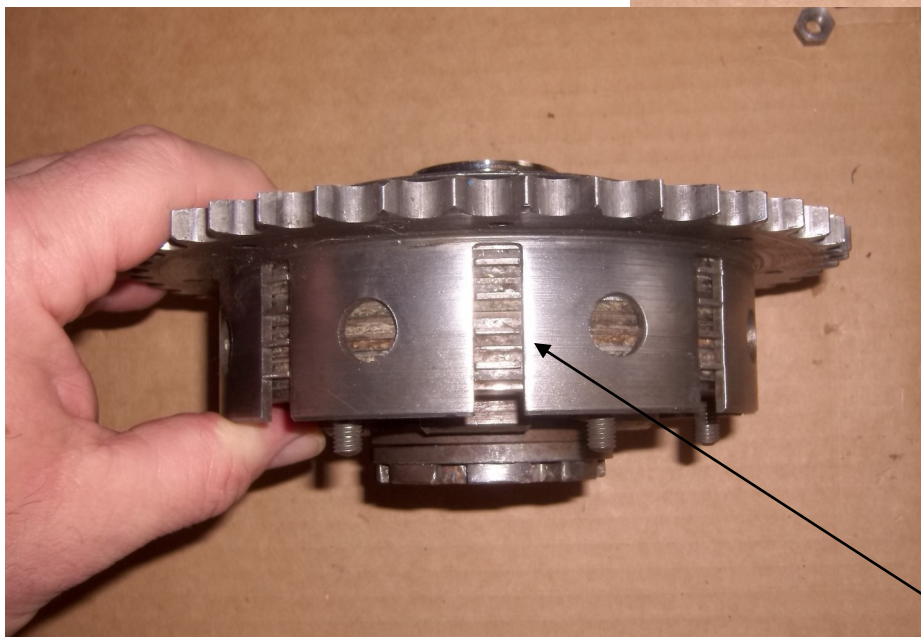
Gearbox shaft showing clutch pulled off. Note the cork ring AND shaft key.

Remember what this looks like as it must look like this when replacing the clutch.

K139 Clutch Key and Ring Cork 66-3813



Clutch as a complete unit off the



gearbox shaft.

Note condition of the teeth on your chainwheel! There should be no nicks or indentations on the slot walls for the driving plates.

BSA M20 GEARBOX CLUTCH ILLUSTRATED PARTS LIST and ASSEMBLY INSTRUCTIONS

DISMANTLING THE CLUTCH:

Whether the clutch is on or off the bike makes no difference.

Step 1

Loosen the Spring Nut (Part Number 15-4312) using a special tool I designed. This tool keeps the nut from becoming badly deformed.



Step 2

When the Spring Retaining Nut is loosened, compress the spring with another special tool I designed. It will go quite away so the you can finish removing the nut with your fingers. Slowly unwind the spring compressor and then take out the spring. I went through several iterations of the spring compressor, this one is a bit clunky.

BSA M20 GEARBOX CLUTCH ILLUSTRATED PARTS LIST and ASSEMBLY INSTRUCTIONS



Step 3

This is what you will see with spring and spring nut removed. The assembly will fall apart at this point. Either the clutch center will drop out from the bottom, or you can tip upside down and be done with it.

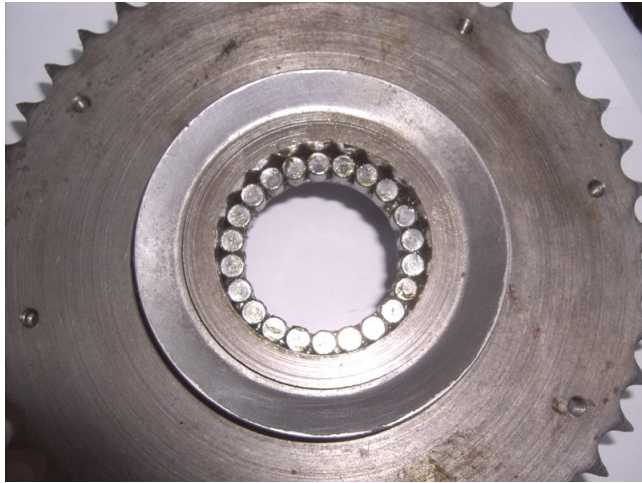
Watch out for the clutch rollers. Those little buggers will go all over the place. Best to do this over a tray of some sort.

Now is when you clean and inspect the parts. I have included the pages from the REME (Royal Electrical and Mechanical Engineers) Standards book so you can see what is acceptable and what they would scrap out. These instructions and drawings of the parts are a few pages later on in this chapter.



BSA M20 GEARBOX CLUTCH ILLUSTRATED PARTS LIST and ASSEMBLY INSTRUCTIONS

CLUTCH RE-ASSEMBLY



STEP 1

The roller bearings are installed first. Use a good quality high temperature grease. Make sure every thing is clean and there is absolutely no grit, dirt, dust, lint from a rag etc.. In the races and rollers.

STEP 2

Carefully slide the clutch sleeve in place from the back side. It is taller than the chainwheel so it may appear to not go "home." Lift the chainwheel a bit and the sleeve will drop into place. See that the two parts are flush.



STEP 3



Holding the assembly to prevent the sleeve and rollers from sliding out, turn it over to look like this. In this step, we have the rollers, chainwheel and clutch sleeve all in place.

BSA M20 GEARBOX CLUTCH ILLUSTRATED PARTS LIST and ASSEMBLY INSTRUCTIONS

STEP 4



Here we have added the clutch basket installed and are now ready to add the clutch plates in order.

It's important to get the order correct or the clutch will not work properly.

These are DRY clutches and do not like oil. Clean each metal ring thoroughly. They will stick together. It's called thin film adhesion. Just like when you wet a decal, or have piece of thin plastic, wet it and apply it to a smooth surface like your windshield and then squeeze the water out.

STEP 5



Install the first plate, a Ferodo Ring

STEP 6



Then a driving ring, tabs are on the outside.

BSA M20 GEARBOX CLUTCH ILLUSTRATED PARTS LIST and ASSEMBLY INSTRUCTIONS

STEP 7



Followed by another Ferodo ring

STEP 8



Followed by a driven ring. Tabs fit into the clutch basket. They are on the inside of the plate.

Repeat this process until all 8 Ferodo rings, all Driving plates (4) and all Driven Plates (3) are used alternating each in turn.

Your clutch should look like this with a Ferodo ring uppermost.



BSA M20 GEARBOX CLUTCH ILLUSTRATED PARTS LIST and ASSEMBLY INSTRUCTIONS



STEP 9

Clutch pressure plate with "L" bolts is next.



STEP 10

Add the spring



STEP 11

The clutch spring retaining nut is placed on top of the clutch spring. Now comes the hardest part of the assembly, compressing the spring and turning the nut to catch the threads without stripping either the clutch center or the nut. These are fine shallow threads so be careful here.

Until the nut is tightened, this can fall apart! Use the compressor tool!!!

BSA M20 GEARBOX CLUTCH ILLUSTRATED PARTS LIST and ASSEMBLY INSTRUCTIONS

Step 12

Getting the nut tight. Here I used my tabletop mill for the push. I imagine a drill press will work too.

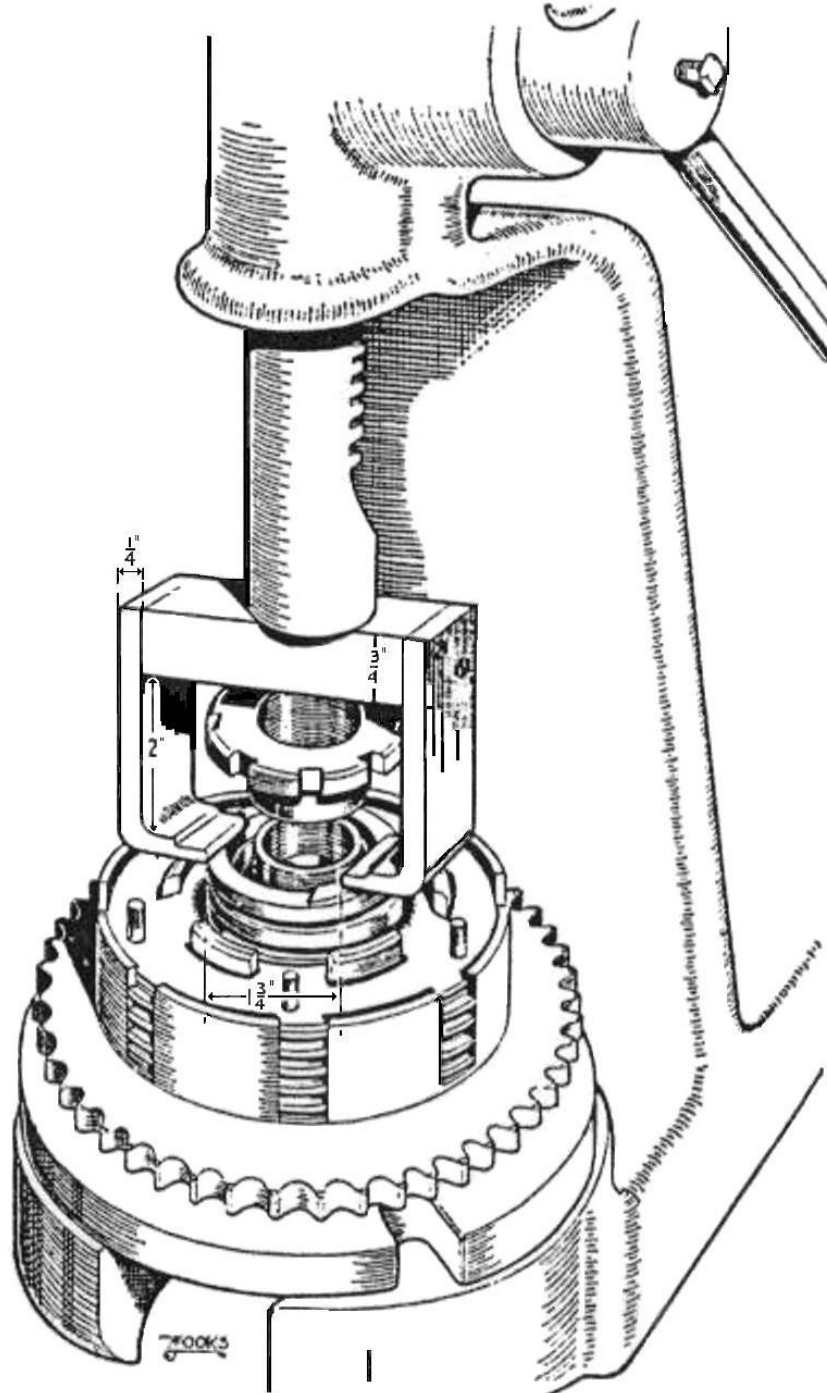
I made one of these before I designed a special tool for compressing the spring. (overleaf).

On release, the spring will bind on the tool giving you a real problem. That spring is very strong.

Another consideration is that you are pressing hard on the nut which may cause a cross thread situation.

**BE CAREFUL
HERE!!**

**THIS WAY IS NOT
RECOMMENDED.**



With the aid of this U tool the clutch spring can be compressed in a hand press.

BSA M20 GEARBOX CLUTCH ILLUSTRATED PARTS LIST and ASSEMBLY INSTRUCTIONS



This is one of the special tools I designed and make for the BSA M20.

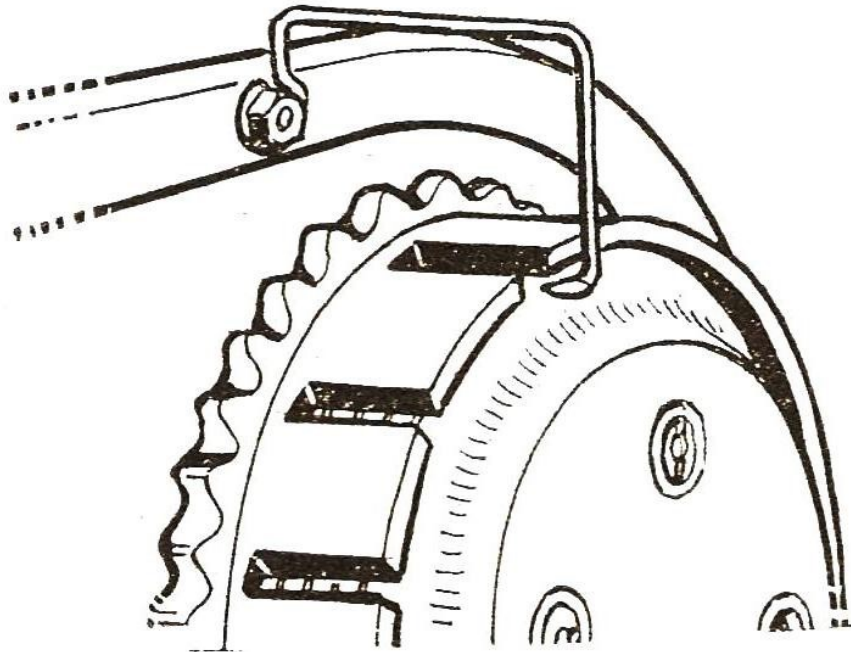
This is the easiest way to safely and single handedly compress the clutch spring. There is no pressure on the nut so you can gently start the threads.

Another tool I make is this clutch nut spanner. This allows you to use a ratchet drive to remove and tighten the nut.



**BSA M20 GEARBOX CLUTCH ILLUSTRATED PARTS LIST and
ASSEMBLY INSTRUCTIONS**

J. H. PARKER.



S RING ADJUSTER

WHEN refitting the clutch on most machines, several springs have to be adjusted in relation to one another to ensure that the pressure plate runs true and so enables bottom gear to be engaged silently.

This can be more easily accomplished if a short length of stiff wire is fastened to a convenient bolt or one of the chaincase studs, and used in a manner similar to a surface gauge to true the pressure plate, as shown in the accompanying sketch.

Middlesbrough.

F. ALLINSON.

BSA M20 GEARBOX CLUTCH ILLUSTRATED PARTS LIST and ASSEMBLY INSTRUCTIONS



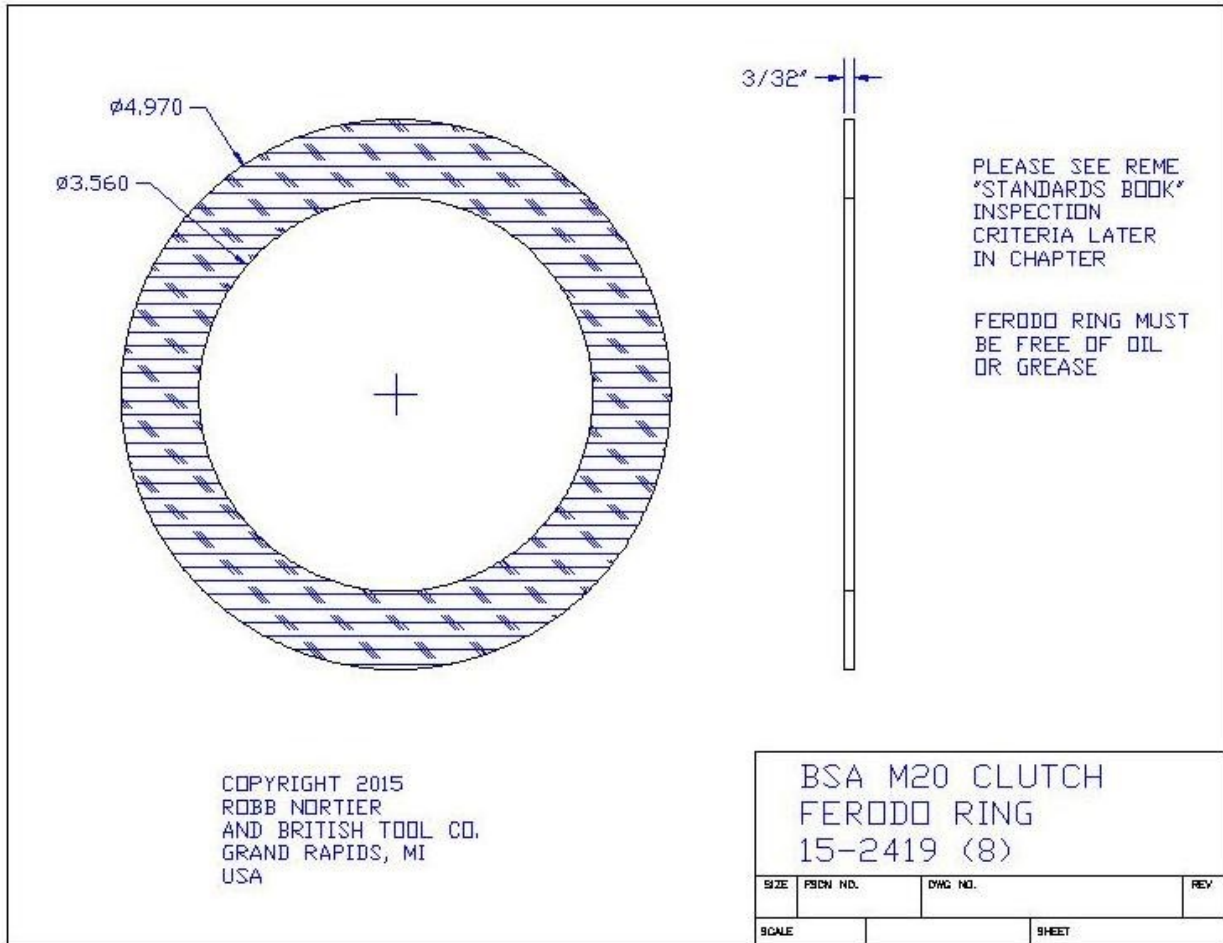
This modification to the clutch nut to allow variable pressure around the circumference of the clutch spring was a REME mod to ease the set up of the clutch lift. The single spring clutch was non adjustable so there was no recompense for uneven lift.

The ends of the clutch spring were ground parallel when manufactured. However, even with a new spring the clutch would sometimes lift unevenly. With use the springs tend to 'settle' with the ends out of square and then lift is always uneven.

Wear of the clutch bearing race, clutch sleeve, roller bearings and the back of the clutch center all contribute to the 'tilt' and 'fore and aft' movement of the sprocket which will be apparent even with everything fully assembled and tightened.

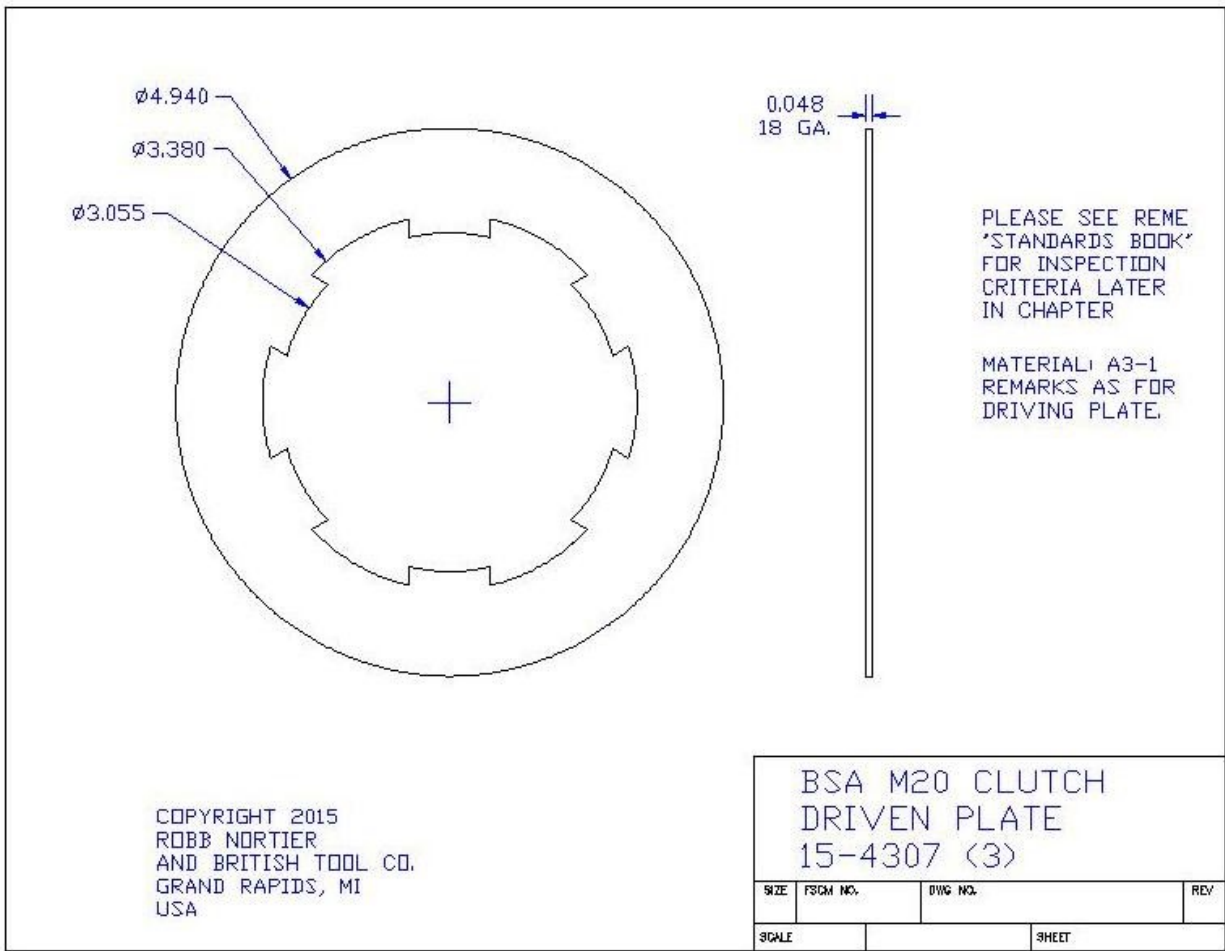
Substitution with new components is the only way to reduce/eliminate this movement, the exception being the clutch centre which can be machined out on the rear to reduce the 'fore and aft' aspect of the play.

BSA M20 GEARBOX CLUTCH ILLUSTRATED PARTS LIST and ASSEMBLY INSTRUCTIONS

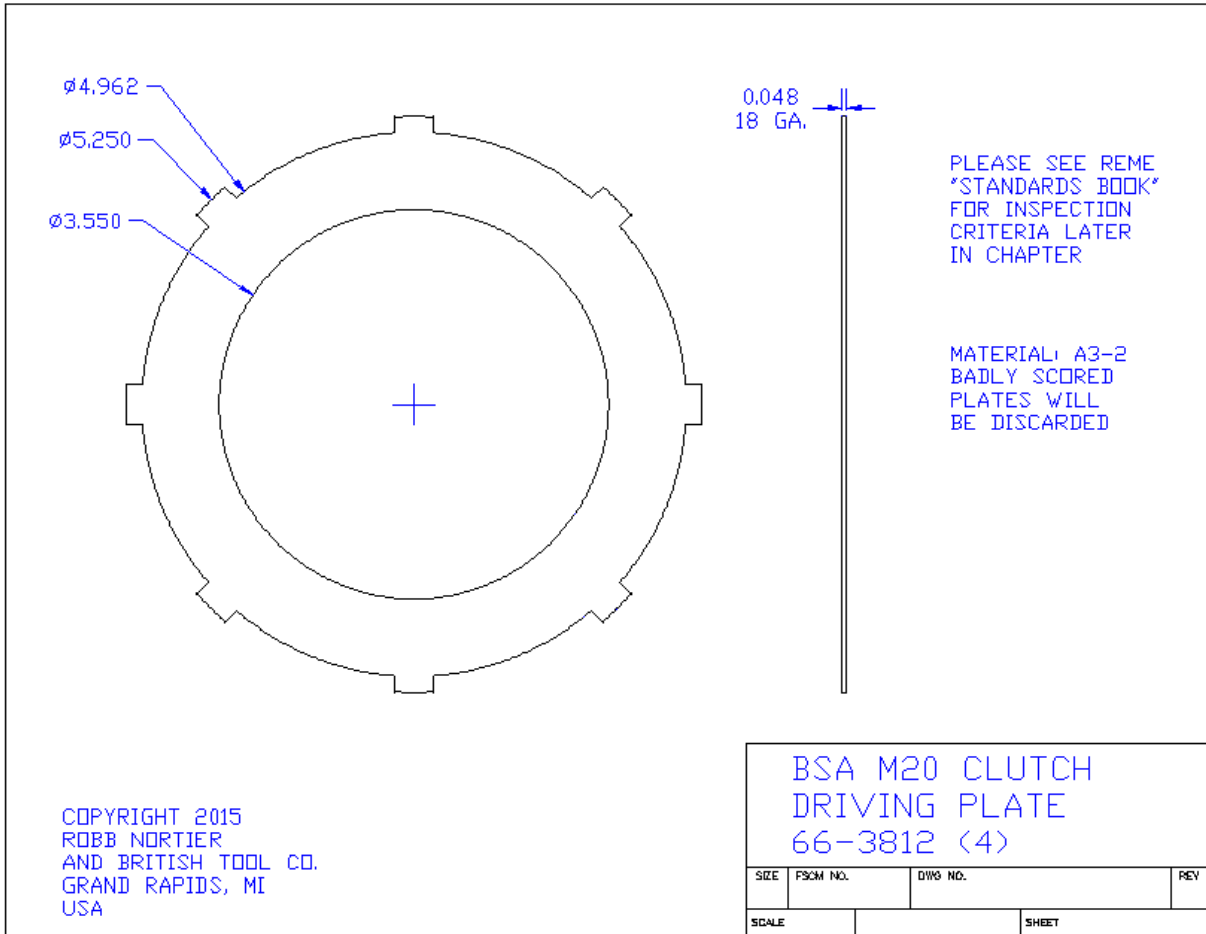


Complete
clutch all in parts.

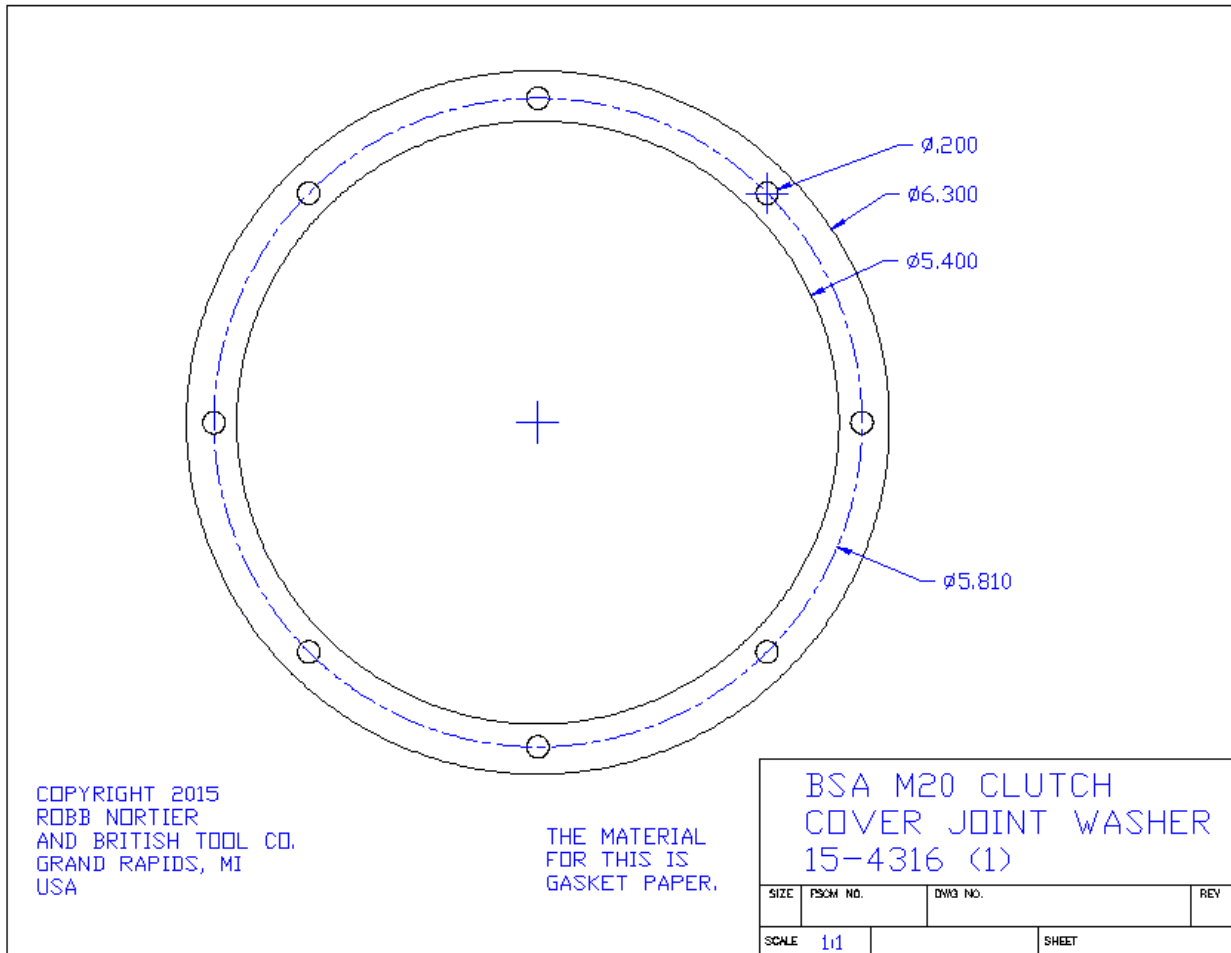
BSA M20 GEARBOX CLUTCH ILLUSTRATED PARTS LIST and ASSEMBLY INSTRUCTIONS



BSA M20 GEARBOX CLUTCH ILLUSTRATED PARTS LIST and ASSEMBLY INSTRUCTIONS

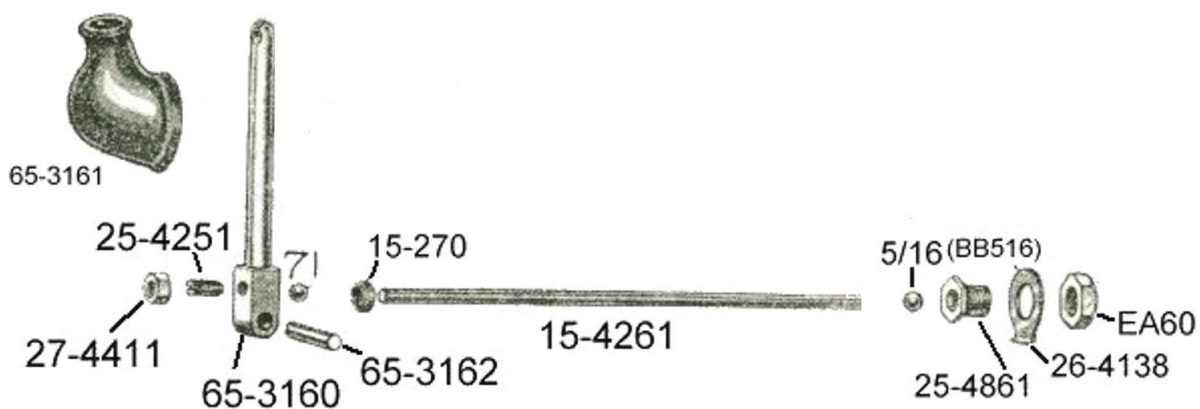


BSA M20 GEARBOX CLUTCH ILLUSTRATED PARTS LIST and ASSEMBLY INSTRUCTIONS



**BSA M20 GEARBOX CLUTCH ILLUSTRATED PARTS LIST and
ASSEMBLY INSTRUCTIONS**

CLUTCH CONTROL PARTS:



NAME

**PART NUMBER
& QTY**

Clutch Operating Lever	65-3160
Clutch Operating Lever Fulcrum Pin	65-3162
Clutch Operating Lever Thrust Pin	25-4251
Clutch Operating Lever Thrust Pin Nut	27-4411
Clutch Push Rod	15-4261
Clutch Push Rod Cork Gland Washer	15-270

END OF LIST

Proofed to:
C-10655 & C-14052
S-1048
1940
1946

**BSA M20 GEARBOX CLUTCH ILLUSTRATED PARTS LIST and
ASSEMBLY INSTRUCTIONS**



Clutch Operating Lever
65-3160

Unfinished steel, probably
painted



Clutch Operating Lever Fulcrum Pin
65-3162

Unfinished steel
1/4 inch Diameter X 1.375
You can use a steel dowel readily available
In good hardware stores. Or a split pin.

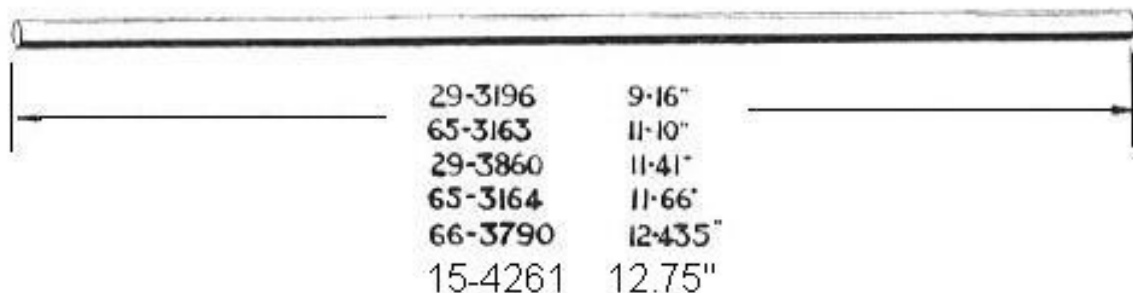
Clutch Operating
Lever Thrust Pin
25-4251 and Nut
27-4411



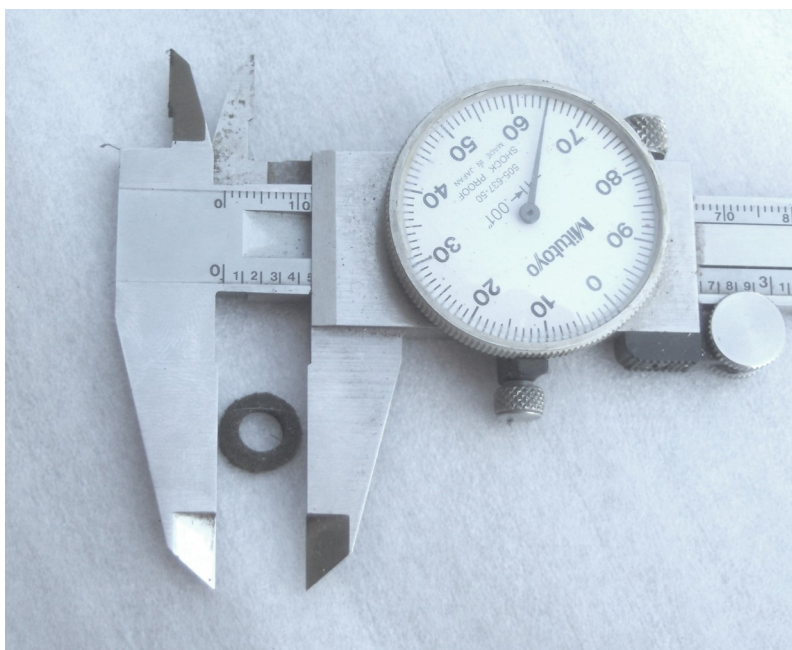
5/16 Diameter Ball fits into the hollow (see above) and
and abuts the Clutch Operating Pushrod.

At the clutch end of the pushrod is another 5/16 ball
held in the Clutch Operating Cap Assembly 15-4313.

BSA M20 GEARBOX CLUTCH ILLUSTRATED PARTS LIST and ASSEMBLY INSTRUCTIONS



Clutch Pushrod 15-4261 This is a 1/4 inch diameter rod with the ends dished to accept a 5/16 ball at each end.



Clutch rod gland washer
(felt) 15-270

This felt example fell out of a gearbox I was cleaning for a rebuild.

I've made replacements from Some oil tanned leather left over from the petrol tank gaskets I made.

15-270 clutch rod gland washer, felt, (later cork) 1937-1947 (3/16" ID x 1.00" OD x 3/16" thick, stretches over pushrod between ratchet assembly and inside of outer cover, supposed to prevent oil travelling along pushrod to clutch and also a secondary "seal" to prevent water ingress and oil leaks at clutch arm, felt acts as an oil lubrication wick and seal?, cork sort of works for a while and is often missing having crumbled.

With thanks to Noam in Israel for the contribution about the gland washer.

**BSA M20 GEARBOX CLUTCH ILLUSTRATED PARTS LIST and
ASSEMBLY INSTRUCTIONS**

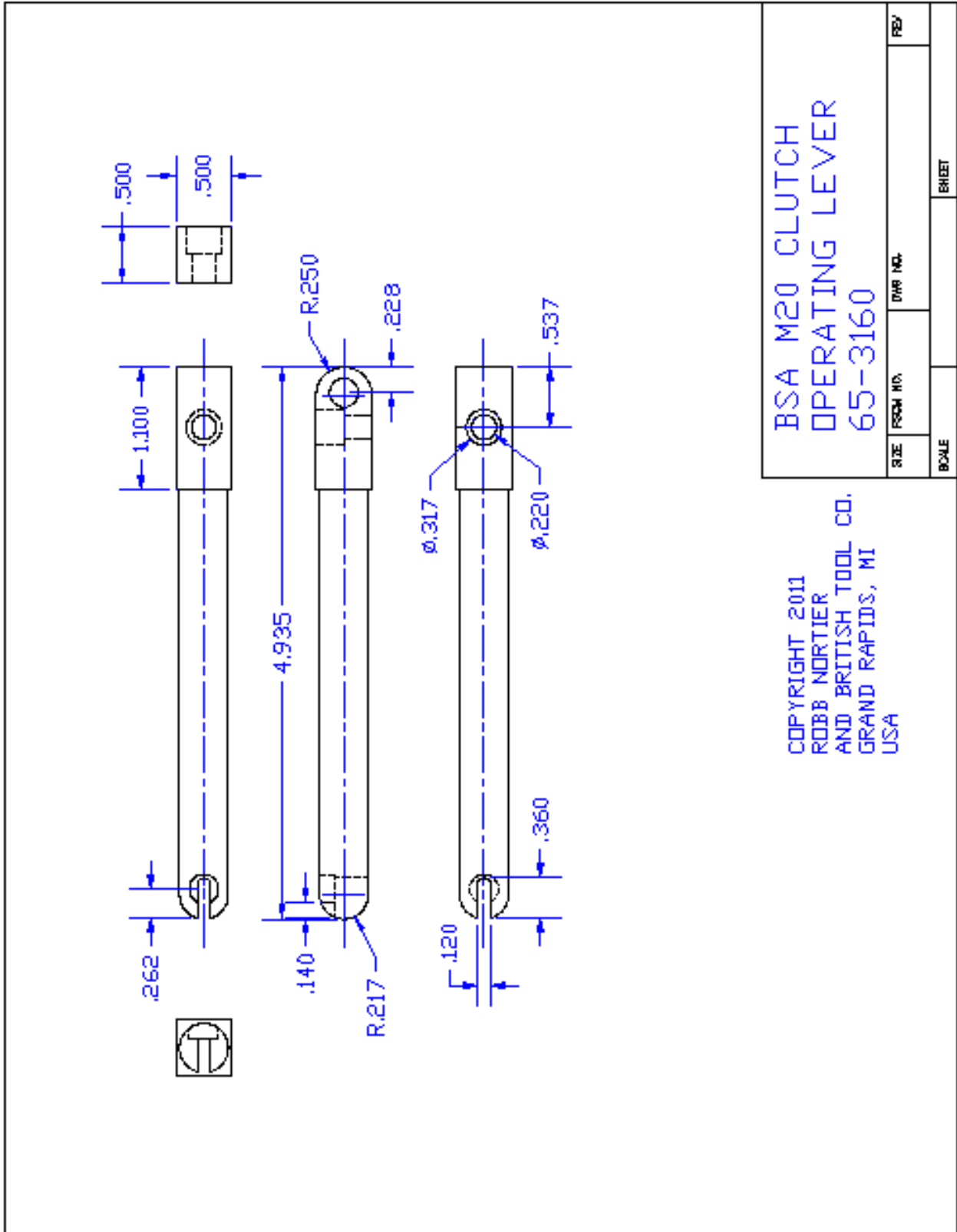


The ball will fall
out of this end!
Watch for it.

Showing
clutch cable
attachment
and routing.



**BSA M20 GEARBOX CLUTCH ILLUSTRATED PARTS LIST and
ASSEMBLY INSTRUCTIONS**



BSA M20 GEARBOX CLUTCH ILLUSTRATED PARTS LIST and ASSEMBLY INSTRUCTIONS

WHEELED VEHICLES
B 128

RESTRICTED

ELECTRICAL AND MECHANICAL
ENGINEERING REGULATIONS

Part 1—(contd)

SECTION 10

Clutch, comprising:—

Item No.	Designation	Part No.	Item No.	Designation	Part No.
1	Clutch chain-wheel (complete)	66-3809	6	Clutch push-rod	15-4261
2	Roller for chain-wheel	MT7/6623	7	Clutch driving plate	66-3812
3	Clutch sleeve	66-3811	8	Clutch driven plate	15-4307
4	Clutch centre	15-4306	9	Clutch, ferodo ring	15-2419
5	Spring (clutch)	15-4311			

Instructions for examiner					
Item No.	Designation	Size (in inches) or Specification			Col 4 Remarks
		Col 1 Plan	Col 2 Acceptable on overhaul	Col 3 Condemnation limit	
1	Clutch chain-wheel				Clutch is the multi-plate dry type mounted on gearbox main-shaft L.H. side No. of teeth: 43 A5-1 stamping When hooking of the teeth is apparent the wheel will be condemned
	(a) Pitch:	0.5			
	(b) Roller dia for chain:	0.335			
	(c) Width for chain (0.305):	{ High, 0.285 Low, 0.275	See remarks		
	(d) Dia at tip:	{ High, 7.100 Low, 7.090			
	(e) Dia at root:	{ High, 6.517 Low, 6.512			
	(f) I.D. for rollers:	{ High, 2.0288 Low, 2.0283			
2	Roller for chain-wheel				For roller bearing clearances refer to Gen O 021 Graded $\pm 0.0001/0.0005$ inch
	Roller dia (nominal):	0.250			
3	Clutch sleeve			Keyed to mainshaft No. of splines: 6	
	(a) Spline details:—				
	(i) Dia over splines:	{ High, 1.3750 Low, 1.3745	No wear		
	(ii) Width of splines:	{ High, 0.255 Low, 0.253			
	(b) Details of thread for clutch nut:	1.1875 x 24 t.p.i.			
	(c) Dia of roller path:	{ High, 1.5278 Low, 1.5273			
4	Clutch centre				A3-1 stamping
	(a) O.D.:	{ High, 4.970 Low, 4.960			

BSA M20 GEARBOX CLUTCH ILLUSTRATED PARTS LIST and ASSEMBLY INSTRUCTIONS

ELECTRICAL AND MECHANICAL
ENGINEERING REGULATIONS

RESTRICTED

WHEELED VEHICLES
B 128

Part 1—(contd)

Section 10—(contd)

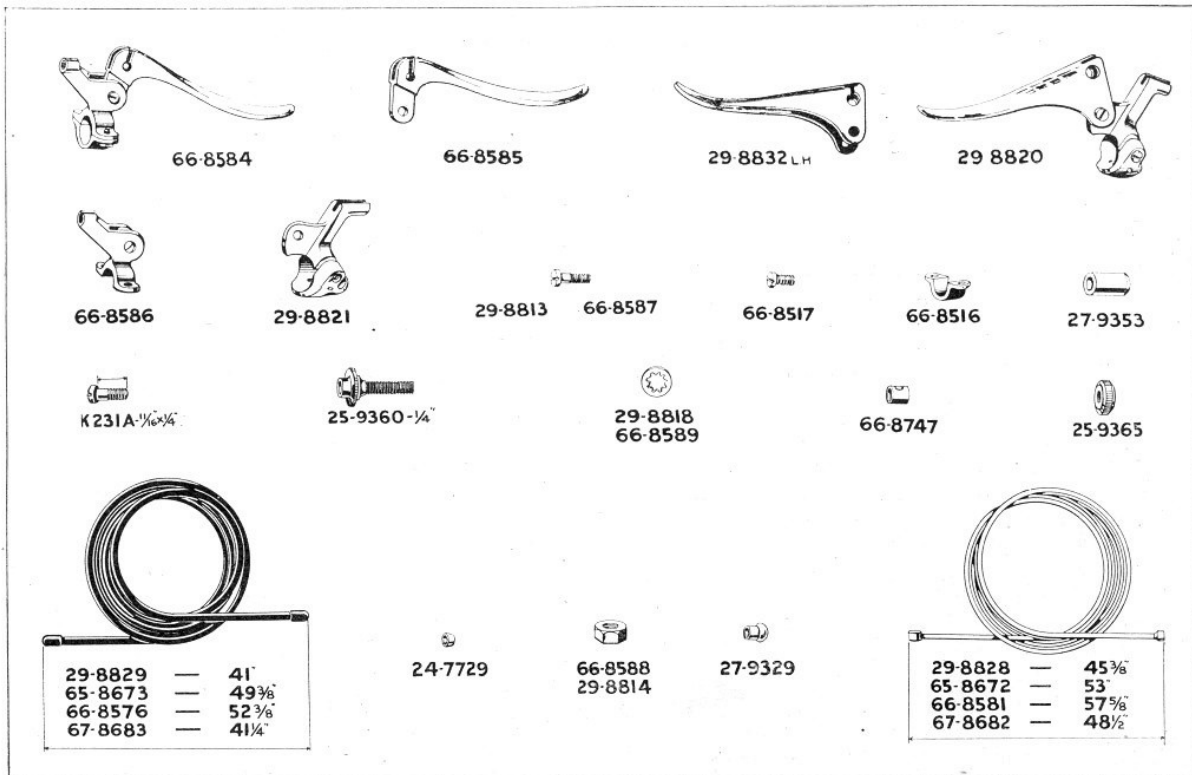
Clutch—(contd)

Instructions for examiner

Item No.	Designation	Size (in inches) or Specification			Col 5 Remarks
		Col 1 Plan	Col 2 Acceptable on overhaul	Col 3 Condemnation limit	
4 (contd)	(b) Dia over dogs:	3			
	(c) Gap of dog:	{ High, 0.755 Low, 0.750			
	(d) Plate (face) thickness:	{ High, 0.160 Low, 0.155			
	(e) Spline details:—		} No wear		
	(i) Dia base of groove:	{ High, 1.378 Low, 1.376			
	(ii) Width of splines:	{ High, 0.257 Low, 0.255			
	(f) Boss dia for spring:	{ High, 1.725 Low, 1.715			
5	Spring (clutch)				Spring has four effective coils of the following section $\frac{5}{16}$ inch wide and $\frac{3}{16}$ inch thick Material: C3-2
	(a) O.D.:	{ High, 2.332 Low, 2.317			
	(b) I.D.:	{ High, 1.770 Low, 1.755			
	(c) Free length:	$2\frac{3}{8}$	Within limits	$2\frac{3}{8}$	
	(d) To compress to $1\frac{1}{8}$ inch under load of:	{ High, 260 lb Low, 240 lb	Within limits	215 lb	
6	Clutch push-rod				
	(a) Length:	{ High, 12.750 Low, 12.740			
	(b) Ball dia:	$\frac{1}{8}$			
7	Clutch driving plate				Material: A3-2. Badly scored plates will be renewed
	(a) Thickness 18 gauge:	0.048			
	(b) Clearance of external teeth to slots:	—	0.030	0.060	
8	Clutch driven plate				Material: A1-3. Remarks as for driving plate
	(a) Thickness 18 gauge:	0.048			
	(b) Clearance of internal teeth to clutch centre:	—	0.030	0.060	
9	Clutch, ferodo ring Thickness (8 off):	$\frac{3}{32}$			Ferodo ring must be free of oil or grease

BSA M20 GEARBOX CLUTCH ILLUSTRATED PARTS LIST and ASSEMBLY INSTRUCTIONS

HANDLEBAR CONTROLS.



Page from 1947 Parts Book.

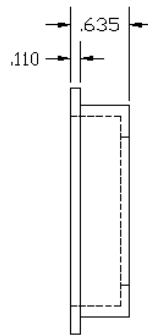
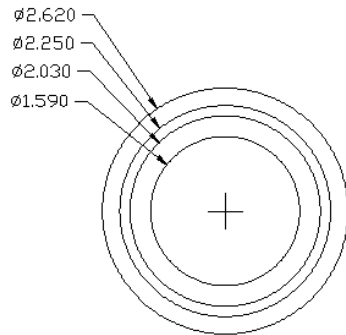
Outer Cable Part Number is: 66-8576 and is 52-5/8 inches long.
Inner Cable Part Number is: 66-8581 and is 57-5/8 inches long.

A BSA six spring clutch from an A-7 or A-10 will fit right on the gearbox input shaft if the adaptor (66-3811) is removed. Same with a "B" model.

A Triumph 4 spring clutch will also fit if an adaptor is used. Once made by MCA (Aston) Ltd # V125.

BSA M20 GEARBOX CLUTCH ILLUSTRATED PARTS LIST and ASSEMBLY INSTRUCTIONS

NO PART NUMBER AVAILABLE
CAME ASSEMBLED WITH CHAINWHEEL



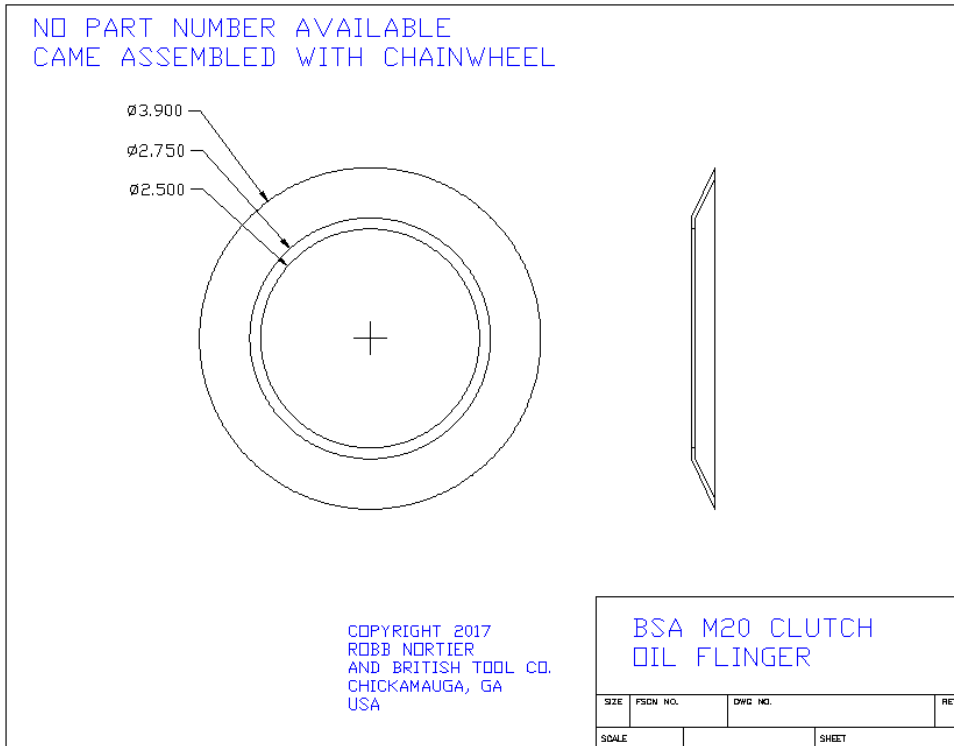
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CHICKAMAUGA, GA
USA

BSA M20 CLUTCH
INNER ROLLER RACE

SIZE	FSCM NO.	DWG NO.	REV.
SCALE			SHEET



BSA M20 GEARBOX CLUTCH ILLUSTRATED PARTS LIST and ASSEMBLY INSTRUCTIONS

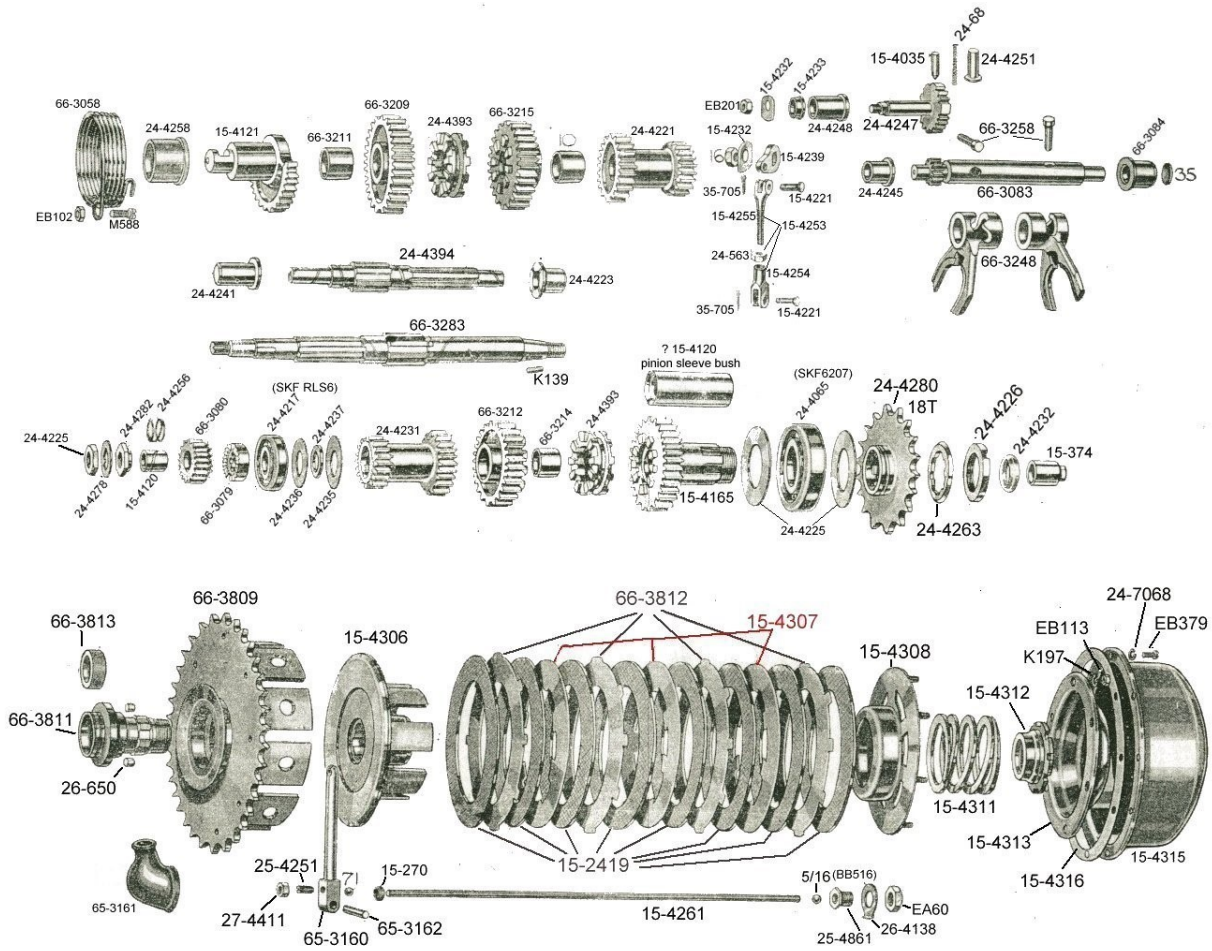


Inner roller race and oil flinger as seen from the back of the clutch.

These came assembled with the clutch chain-wheel. I could not find discreet part numbers for them.



BSA M20 GEARBOX CLUTCH ILLUSTRATED PARTS LIST and ASSEMBLY INSTRUCTIONS



66-3058	Kickstarter Crank Return Spring	2	C1	
M588	Kickstarter Crank Return Spring Anchor Pin	1	C3	
EB102	Kickstarter Crank Return Spring Anchor Pin Nut	1	C2	
15-4121	Kickstarter Quadrant	1	C8	
66-3259	Kickstarter Quadrant Stop Rubber	1	H17	
66-3079	Kickstarter Ratchet	1	C48	
24-4256	Kickstarter Ratchet Spring	1	C48	
66-3080	Kickstarter Ratchet Pinion	1	C45	
66-3081	Kickstarter Ratchet Pinion Sleeve	1	C44	
24-4282	Kickstarter Ratchet Pinion Sleeve Nut	1	C43	
24-4225	Kickstarter Ratchet Pinion Sleeve Locknut	1	C41	
24-4278	Kickstarter Ratchet Pinion Sleeve Locking Washer	1	C42	
GEARBOX SPROCKET.				
24-4280	Gearbox Sprocket (18T)	1	C58	
24-4226	Gearbox Sprocket Locknut	1	C60	
24-4263	Gearbox Sprocket Locknut Locking Washer	1	C39	
GEARBOX CLUTCH.				
66-3809	Clutch Assembly	1		
66-3809	Clutch Chainwheel, with roller race	1	C92	
26-650	Clutch Chainwheel Roller	22	C85	
66-3811	Clutch Sleeve	1	C84	
66-3813	Clutch Sleeve Cork Ring	1	C88	
15-4306	Clutch Centre	1	C74	
15-2419	Clutch Peroid Ring	8	C75	FE/2/BS/2
66-3812	Clutch Driving Plate	4	C77	
15-4307	Clutch Driven Plate	3	C78	
15-4308	Clutch Sliding Plate, with 4 bolts	1	C83	
EB113	Clutch Sliding Plate Bolt Nut	1	C83	
K197	Clutch Sliding Plate Bolt Spring Washer	6	C88	
15-4311	Clutch Spring	1	C84	
15-4312	Clutch Spring Retaining Nut	1	C85	
15-4313	Clutch Operating Cap Assembly	1	C86	
25-4861	Clutch Operating Cap Bush	1	C80	
66-3248	Clutch Operating Cap Bush Bolt (3/8" diam.)	1	C79	
EA60	Clutch Operating Cap Bush Locknut	1	C82	
26-4138	Clutch Operating Cap Bush Locking Washer	1	C81	
15-4315	Clutch Cover Joint Washer	6	C89	
15-4316	Clutch Cover Screw	1	C89	
EB379	Clutch Cover Screw Spring Washer	8	C91	
24-7068	Clutch Cover Screw Spring Washer	8	C90	
GEARBOX CLUTCH CONTROL.				
65-3166	Clutch Operating Lever	1	C70	
65-3162	Clutch Operating Lever Pulcrum Pin	1	C70	
25-4251	Clutch Operating Lever Thrust Pin Nut	1	C69	
27-4411	Clutch Operating Lever Thrust Pin	1	C68	
15-4261	Clutch Push Rod	1	C76	
15-270	Clutch Push Rod Cork Gland Washer	1	C73	

SHAFTS AND GEARS.				
66-3283	Gearbox Mainshaft	1	C41	
24-4232	Gearbox Mainshaft Felt Washer	1	C61	
K199	Gearbox Mainshaft Key	1	C42	
15-374	Gearbox Mainshaft Nut	1	C62	
24-4394	Gearbox Layshaft	1	C39	
15-4165	Mainshaft Pinion Sleeve, with bush (25T)	1	C38	
15-4120	Mainshaft Pinion Sleeve Bush	1	C44	
66-3212	Mainshaft 3rd Gear, with bush (25T)	1	C52	
66-3214	Mainshaft 3rd Gear Bush	1	C53	
24-4231	Mainshaft 2nd and 1st Gear (20T and 16T)	1	C51	
24-4393	Mainshaft Dog Clutch	1	C8	
66-3209	Layshaft Top and 3rd Gear (17T and 20T)	1	C9	
66-3215	Layshaft 2nd Gear, with bush (25T)	1	C9	
66-3214	Layshaft 2nd Gear Bush	1	C53	
66-3209	Layshaft 1st Gear, with bush (29T)	1	C7	
66-3211	Layshaft 1st Gear Bush	1	C6	
24-4393	Layshaft Dog Clutch	1	C8	
GEARBOX SHELL BEARINGS.				
24-4065	Gearbox Shell Ballrace Journal	1	C57	SKF6207
24-4225	Gearbox Shell Ballrace Oil Retaining Washer	2	C56	
66-3071	Gearbox Mainshaft Packing Shim (.005")	1	C47	
24-4217	Gearbox Inner Cover Ballrace Journal	1	C47	SKF RLS6
24-4230	Gearbox Inner Cover Ballrace Oil Retaining Washer	1	C48	
24-4235	Gearbox Inner Cover Ballrace Oil Flinger Washer	1	C50	
24-4237	Gearbox Inner Cover Ballrace Distance Washer	1	C49	
24-4223	Gearbox Shell Layshaft Bush	1	C40	
24-4241	Gearbox Inner Cover Layshaft Bush	1	C38	
66-3084	Gearbox Shell Gear Control Shaft Bush	1	C34	
GEAR CONTROL (Control Shafts).				
35-1079	Gearbox Shell Gear Control Shaft Bush Welch Plug	1	C35	
24-4245	Gearbox Inner Cover Gear Control Shaft Bush	1	C31	
24-4248	Gearbox Inner Cover Gear Control Quadrant Bush	1	C15	
24-4258	Gearbox Outer Cover Kickstart Quadrant Bush	1	C4	
GEAR CONTROL (Control Shafts).				
66-3082	Gear Control Shaft, with pegs and forks	1	C11	
66-3083	Gear Control Shaft	1	C33	
66-3248	Gear Control Shaft Operating Fork	2	C36	
66-3258	Gear Control Shaft Peg	2	C30	
24-4247	Gear Control Quadrant	1	C28	
15-4035	Gear Control Quadrant Plunger	1	C27	
24-4251	Gear Control Quadrant Plunger Cap	1	C29	
24-68	Gear Control Quadrant Plunger Spring	1	C28	
15-4239	Gear Control Quadrant Operating Lever	1	C18	
15-4233	Gear Control Quadrant Operating Lever Spacing Collar	1	C14	
EB201	Gear Control Quadrant Operating Lever Nut	1	C12	
15-4232	Gear Control Quadrant Operating Lever Locking Washer	1	C17	
15-4253	Gear Control Rod, with adjuster and locknut	1	C21, 22, 23	
24-563	Gear Control Rod Adjuster Locknut	1	C22	
15-4221	Gear Control Rod Pin	2	C20	
35-705	Gear Control Rod Pin Split Pin	2	C19	