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WORKSHOP MANUAL SUPPLEMENT

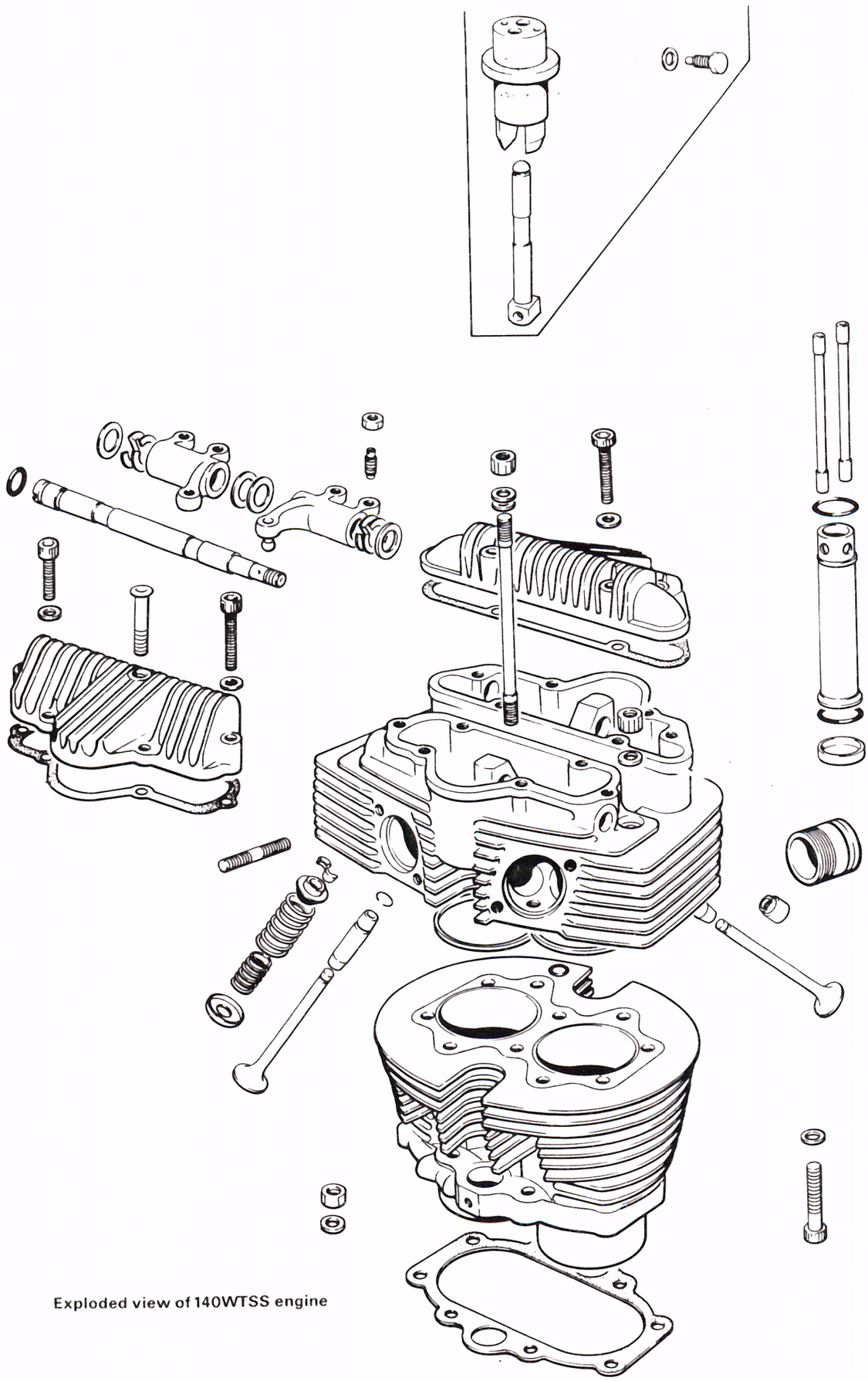
FOR

T140W-TSS MODEL

TRIUMPH MOTORCYCLES (MERIDEN LTD)
MERIDEN WORKS · ALLESLEY · COVENTRY · CV5 9AU · ENGLAND

TELEPHONE MERIDEN 22331 TELEX TRUSTY GB 311672

Published May 1983



Exploded view of 140WTSS engine

STRIPPING & REASSEMBLING THE ROCKERS

Removal of the rocker spindles from the cylinder head is best achieved by driving them out, using a soft metal drift applied to the threaded end.

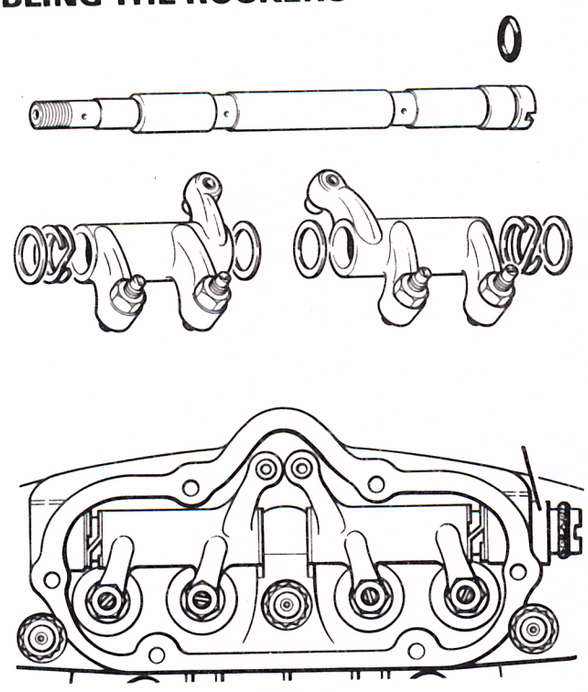
Before attempting to remove the rocker spindle ensure both valves are closed and therefore there is no load on the rockers via the push rods.

When the rocker spindle has been withdrawn the rockers and spacing washers can be removed.

NOTE the positioning of the rockers to ensure that they are refitted correctly, if in doubt mark each before removal as this will ensure correct replacement.

If it is required to replace the rocker ball pins, the old ones can be removed by a suitable drift and new ones pressed in.

When reassembling the rocker spindle always renew the 'O' ring and use tool No. 61-7048 to aid the compressing of spindle 'O' ring.

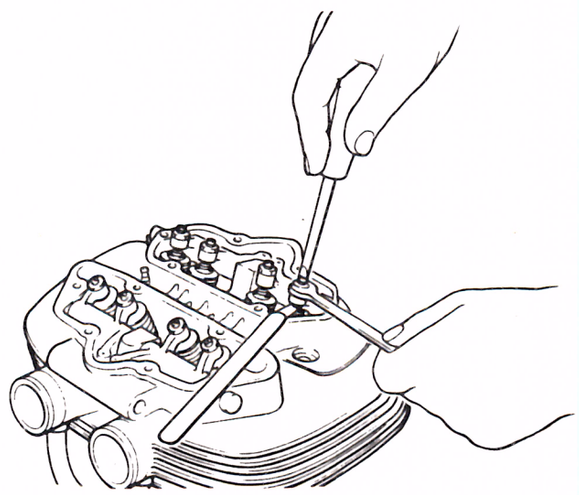


ADJUSTING THE VALVE ROCKER CLEARANCE

The valve rocker clearances should be checked and adjusted if necessary every 3,000 miles (4,800KM). The correct clearances are given in the technical data section.

NOTE Adjustment must only be made what the engine is cold.

There are four adjusters on the rockers which are accessible after removing the inspection covers from the cylinder head. A feeler gauge can then be inserted between the adjuster and valve when the engine position is correct. To enable this engine position to be readily obtained place the motor cycle on the centre stand and engage fifth gear. By revolving the rear wheel slowly the crankshaft will be turned and the valves can be positioned.



INLET

Revolve the rear wheel until one of the inlet rockers moves downwards thus opening the valve. When this valve is fully open the opposite inlet valve can be adjusted using the feeler gauge of the correct thickness.

The clearance is correct when the feeler gauge is a tight sliding fit between the valve tip and the adjuster. After tightening the adjuster locknut recheck the clearance. Having adjusted one set of inlet valves turn the rear wheel until the valve which you have adjusted is now fully open and repeat the procedure for the other inlet valves.

EXHAUST
Proceed in the same way as for the inlet valves having one valve fully open whilst checking the opposite one. See technical data for settings.

Replace the inspection covers ensuring the gaskets are in good condition if in doubt renew.

REMOVING & REPLACING THE EXHAUST SYSTEM

To remove the exhaust pipes first slacken the clamps nuts securing the balance pipe on both sides. Undo the brass nuts holding the finned clip to the cylinder head.

Remove the bolts holding the front brackets to the exhaust pipe. Slacken the clamps which secure the silencer to exhaust pipe. Using a rubber hammer tap both exhaust pipes away from the cylinder head so that they are removed together. This will allow the balance tube to be removed from between the pipes. Remove the silencers by detaching the pillion footrest.

Before refitting the exhaust pipes inspect the copper asbestos sealing joint for condition and if necessary renew.

Replacement of the system is a reversal of the above instructions remembering to assemble the pipes together in one operation with the balance tube.

REMOVING & REFITTING THE CYLINDER HEAD

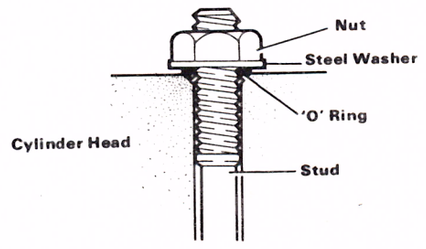
Proceed as detailed in Section 4 Relating to exhaust system.
Remove the fuel tank as detailed in Section E1.
Remove the carburettors as detailed in Section B8.
Unscrew the cylinder head torque stay fixing bolt upper.
Unscrew the nut retaining the torque stay to head and withdraw the bolt. Remove the torque stay completely.
Remove the tappet inspection covers by unscrewing the allen fixing screws.
Remove the rocker oil feed pipe by undoing the large Dome nuts.
Remove the rocker sindles as detailed in 2 and remove the Push Rods.
Undo and remove the four allen screws securing the cylinder head to barrel.
Undo the cylinder head securing nuts a turn at a time, until the load has been released.

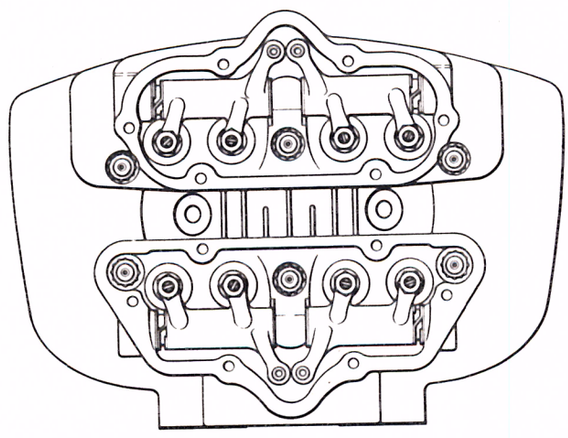
Lift cylinder head clear of through studs and remove. Remove push rod cover tubes and sealing rings.

Refitting the Cylinder Head
Fit new push rod cover tube seals and fit push rod covers to cylinder barrel.

Ensure that the cylinder head and cylinder barrel faces are clean.
Position new sealing rings in the head recesses -grease may be used to retain these rings whilst fitting the cylinder head.

Offer cylinder head over fixing studs taking care that sealing rings are not disturbed whilst head is slid into position.





Fit washers and nuts to all upper fixing studs and very lightly tighten down. Fit new seals to the two inside fixing studs,

Fit the four Allen Screws which retain the head to the barrel and lightly tighten.

Finally tighten all fixing screws and nuts observing the tightening procedure and the torque settings TD5.

Refit the push rods rockers and rocker spindles along with the spacing washers.

Adjust tappets as 3.
Refit Rocker covers as 3.
Refit exhaust system as 4.
Refit the cylinder head torque stay.
Refit the carburettors B8.
Refit fuel tank as sec E1.

REMOVING & REPLACING THE CYLINDER BLOCK & TAPPETS

Proceed as sec 5 until cylinder head is removed.

Secure the inlet and exhaust tappet by wedging a suitable retainer between them. This will prevent the tappets from falling into the crankcase. Remove the four cylinder to crankcase retaining nuts followed by removal of the long through studs. Note two studs are locating doweled.

Turn the engine until the pistons are at the bottom of the cylinder and gently remove the cylinder block.

When reassembling note that the dowel through studs are fitted R.H. rear and L.H. front. Reassemble in reverse order and for further information see sections B19 to B27 T140.

IGNITION TIMING

Initial Setting
To enable the engine to be started and run so that the timing can be set stroboscopically, the following procedure should be adopted.

(1) Set engine at full advance firing position by aligning the rotor mark with the pointer situated in the primary cover.

(2) Fit reluctor into camshaft. Taper aligning front edge with line marked in the housing (this line will be located at approximately the 2 o'clock position). Tighten reluctor retaining bolt.

(3) Fit pulse sensor plate positioning radial adjustment slots centrally about the threaded holes. Fit retaining bolts and tighten.

The engine will now be ready to start and run.

Note
Never fail to finally check ignition timing with a stroboscope as correct setting is essential.

For data not given refer to T140 1980/81

Bore	mm	76	
	in	2.993"	
Stroke	mm	82	
	in	3.228"	
Capacity	cc	747	
	in	45	
Compression Ratio		9.5:1 STD	8.5:1 alternative

VALVE TIMING – CHECKED WITH NIL CLEARANCE AT T.D.C.

Inlet	in	0.150" (3.810 mm)
Exhaust	in	0.130" (3.266 mm)

TAPPET CLEARANCE – COLD

Inlet	in	0.008" (0.203 mm)
Exhaust	in	0.008" (0.203 mm)

CRANKSHAFT

Big End Journal Diameter	1.8765"/1.8760"	(47.6631/47.6504 mm)
Main Bearing Journal Diameter		
Drive Side	1.1247"/1.250"	(28.576/28.575 mm)
Timing Side	1.1812"/1.1808"	(30.00/29.99 mm)
Balance Factor	69% STD	55% AV

CONNECTING RODS

Big End Diameter	2.0215"/2.0210"	(51.3461/51.3334 mm)

CYLINDER BLOCK

Material: ALUMINIUM ALLOY WITH CAST IRON LINERS

		Low (L) Grade	High (H) Grade
Bore Size	in	2.9898"/2.9893"	2.9904"/2.9899
	mm	75.941/75.928	75.957/75.943

CYLINDER HEAD

Valve Guide Bore	0.4985"/0.4980"	(12.661/12.649 mm)
Valve Seat Interference	0.0055"/0.005"	(0.1397/0.1270 mm)
Valve Seat Angle	45°	

VALVES

Stem Diameter	Inlet	0.2797"/0.2794"	(7.1043/7.0967 mm)
	Exhaust	0.2790"/0.2787"	(7.0866/7.078 mm)
Head Diameter	Inlet	1.152"/1.148"	(29.26/29.159 mm)
	Exhaust	0.995"/0.990"	(25.273/25.146 mm)

VALVE GUIDES

Bore Diameter	Inlet	0.2816"/0.2813"	(7.1526/7.1449 mm)
Bore Diameter	Exhaust	0.501"/0.5005"	(12.795/12.712 mm)
Outside Diameter		1.435"	(36.413 mm)
Length	Inlet	1.475"	(40.455 mm)
Length	Exhaust		

VALVE SPRING

	OUTER	INNER
Free Length	1.378" (35.00 mm)	1.161" (29.489 mm)
Total No. of Coils	5.4	6.5
Rate	75 lb/in (5.273 kg²cm)	41.41 lb/in (2.918 kg²cm)

ROCKERS

Bore Diameter	0.5317"/0.5312"	(13.469/13.4564 mm)
Spindle Diameter	0.5290"/0.5285"	(13.4366/13.4239 mm)

Crankshaft Position – full advance	30°
Engine rpm when full advance occurs	3500

SPARK PLUG

Type	Champion G63
Gap Setting	0.25 (0.635 mm)
Thread Size	10 mm
Reach	¾" (19.06 mm)

PISTONS

	LOW (L) GRADE	HIGH (H) GRADE
Diameter	75.887/75.877 mm 2.9876"/2.9872"	75.900/75.890 mm 2.9882"/2.9878"

PISTON RINGS

Compression Rings		
Width	0.0586"/0.0581"	(1.49/1.478 mm)
Thickness (Radial)	0.127"/0.120"	(3.23/3.07 mm)
Fitted Gap	0.013"/0.008"	(0.330/0.203 mm)
Clearance in Groove	0.0035"/0.0015"	(0.089/0.038 mm)

OIL CONTROL

Width	0.159"/0.158"	(3.937/3.925 mm)
Thickness (Radial)	0.109"/0.103"	(2.78/2.62 mm)
Fitted Gap	0.010"/0.008"	(0.254/0.203 mm)
Clearance in Groove	0.0025"/0.0015"	(0.063/0.038 mm)

CARBURETTOR

	AMAL	BING
Make	2934/2934/	64 CD
Type	34 mm	36 mm
Bore Size	220	140
Main Jet	0.106	2.66
Needle Jet	2C3	STD
Neddle Type	–	1
Needle Position	–	–
Throttle Valve	–	3
Piston	20	45
Pilot Jet	35	–
Starter Jet		

GEARBOX

RATIOS

INTERNAL	5th Top	1.00:1
	4th	1.19:1
	3rd	1.40:1
	2nd	1.837:1
	1st Bottom	2.585:1

OVERALL

	5th	4.40:1
	4th	5.24:1
	3rd	6.16:1
	2nd	8.08:1
	1st	11.37:1
Engine rpm at 10 mph in 5th Gear	626	

SPROCKET DETAILS

Engine	29
Gearbox	20
Clutch	58
Rearwheel	44

CHAIN DETAILS

Primary	Triplex endless ⅜" pitch x 84 links
Secondary	Single ⅜" x 1⅝" x 10 links Renold Grand Prix

ELECTRICAL

BULBS

Headlight	12 volt 60/55 Quartz Halogen H4 Lucas 472

TORQUE WRENCH SETTINGS (DRY)

Cylinder Head Fixing Nuts	22 lb ft	(3.0 kg m)
Cylinder Head Fixing Screws	12 lb ft	(1.659 kg m)
Cylinder Barrel Fixing Nuts	14 lb ft	(1.936 kg m)
Con-Rod Nuts	22 lb ft	(30 kg m)