

# Triumph

## MODEL COVERAGE

250 TR25W	650 TR6R, "Trophy" TR6C, "Trophy" T120R, "Bonneville"	750 Twins TR7V, "Tiger 750" T140V, "Bonneville 750"
500 T100C, "Trophy Trail" T100R, "Daytona"		750 Triples T150, "Trident" T150V, "Trident"

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## MAINTENANCE

NOTE: Common maintenance procedures are explained in detail in "General Information."

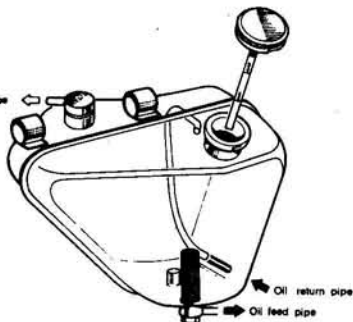
### LUBRICATION

#### Engine

NOTE: Always change oil when the engine is at operating temperature.

#### TR25W

1. Remove the right side-panel.
2. Using a suitable container and funnel to catch the oil, remove the oil tank filter located in the lower right corner of the tank. Clean the filter in solvent.
3. Allow the tank to drain for about five minutes, then lean the machine toward the right side to make sure that all the oil has been removed.
4. Remove the four attaching nuts and the oil sump filter located at the bottom of the crankcase. Also, disconnect the supply and scavenge lines at the crankcase union nut.
5. Wash the sump filter in solvent, then allow it to air dry or blow it dry with compressed air.
6. Reinstall the sump filter and gasket, connect the supply and scavenge lines, and reinstall the oil tank filter.
7. Add the recommended oil to the tank until it reaches the correct level mark on the dipstick. Do not overfill it, as excessive venting will result.
8. Let the engine run for several minutes, then recheck the oil level and top up if necessary.



250 oil tank

#### 500 AND 650

1. Remove the sump drain plug and filter.
2. Thoroughly clean the filter in solvent.
3. Allow the oil to drain for approximately five minutes, then reinstall the filter (with gasket) and the sump drain plug.
4. Remove the oil tank filler cap.
5. Position a container under the oil tank, then remove the tank drain plug or disconnect the oil feed line.
6. Remove the oil tank filter and clean it thoroughly in solvent.
7. If possible, clean the oil tank with

## General Specifications

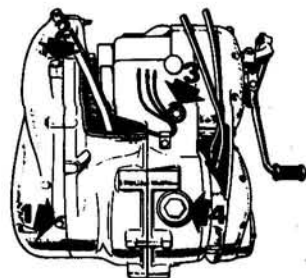
	TR25W	T100C	T100R	TR6R *	TR6C *
<b>DIMENSIONS</b>					
Net weight (lbs)	320.0	337.0	341.0	365.0	365.0
Overall Height (in.)	43.25	38.0	38.0	38.0	38.0
Overall Width (in.)	28.0	26.5	26.5	27.5	27.5
Overall Length (in.)	83.0	83.25	83.25	84.0	84.0
Wheelbase (in.)	53.0	53.5	53.5	55.0	55.0
Seat Height (in.)	32.0				
Ground Clearance (in.)	8.5	7.5	7.5	6.0	6.0
<b>ENGINE</b>					
Displacement (cc)	250	490	490	649	649
Bore x Stroke (mm)	67 x 70	69 x 65.5 (2)	69 x 65.5 (2)	71 x 82 (2)	71 x 82 (2)
Compression Ratio	10 : 1	9.0 : 1	9.1 : 1	9.0 : 1	9.0 : 1
Carburetor Type and Model	Amal 928/1	Ⓣ	Ⓣ	Amal R930/23	Amal R930/23
<b>TRANSMISSION</b>					
Clutch Type	wet, multi-plate	wet, multi-plate	wet, multi-plate	wet, multi-plate	wet, multi-plate
<b>Internal Gear Ratios</b>					
1st	2.65	2.47	2.47	2.44	2.44
2nd	1.65	1.61	1.61	1.69	1.69
3rd	1.24	1.22	1.22	1.24	1.24
4th	1.00	1.00	1.00	1.00	1.00
5th					
<b>Sprockets (no. of teeth)</b>					
Engine	23	26	26	29	29
Clutch	52	58	58	58	58
Gearbox	15	18	18	18	18
Rear Wheel	Ⓛ	46	46	46	46
<b>CHASSIS</b>					
Front Suspension		rod damper or shuttle valve-type telescopic		shuttle valve-type telescopic	
Rear Suspension		swing arm with hydraulically dampened shocks		dampened shocks	
<b>Tire Size:</b>					
front	3.25 x 18	3.25 x 19	3.25 x 19	3.25 x 19	3.25 x 19
rear	4.00 x 18	4.00 x 18	4.00 x 18	4.00 x 18	4.00 x 18
<b>ELECTRICAL</b>					
System Voltage	12	12	12	12	12
Generator Type		alternator			
	T120R *	T150	TR7V	T140V	T150V
<b>DIMENSIONS</b>					
Net Weight (lbs)	365.0	470.0	402	408	460
Overall Height (in.)	38.0	43.5	38.0	38.0	43.5
Overall Width (in.)	27.5	32.5	33.0	33.0	32.5
Overall Length (in.)	84.0	86.0	87.5	87.5	86.0
Wheelbase (in.)	55.0	56.25	55.0	55.0	56.3
Seat Height (in.)		32.0	31.5	31.5	32.0
Ground Clearance (in.)	5.0	6.5	6.0	6.0	6.5
<b>ENGINE</b>					
Displacement (cc)	649	741	747	747	741
Bore x Stroke (mm)	71 x 82 (2)	67 x 70 (3)	76 x 82 (2)	76 x 82 (2)	67 x 70 (3)
Compression Ratio	9.0 : 1	9.0 : 1	8.6 : 1	8.6 : 1	9.5 : 1
Carburetor Type and Model	Amal R930/9 & L930/10	Amal 626	Amal R930/89	Amal L930/92 & R930/89	Amal 626
<b>TRANSMISSION</b>					
Clutch Type	wet, multi-plate	wet, single-plate	wet, multi-plate	wet, multi-plate	wet, single-plate
<b>Internal Gear Ratios</b>					
1st	2.44	2.44	2.59	2.59	2.59
2nd	1.69	1.69	1.84	1.84	1.84
3rd	1.24	1.19	1.40	1.40	1.40
4th	1.00	1.00	1.19	1.19	1.19
5th			1.00	1.00	1.00
<b>Sprockets (no. of teeth)</b>					
Engine	29	28	29	29	28
Clutch	58	50	58	58	50
Gearbox	18	18	20	20	18
Rear Wheel	46	52	47	47	53
<b>CHASSIS</b>					
Front Suspension			telescopic, hydraulically dampened		
Rear Suspension			swing arm with hydraulically dampened shocks		
<b>Tire Size:</b>					
front	3.25 x 19	3.50 x 19	3.25 x 19	3.25 x 19	4.10 x 19
rear	4.00 x 18	4.10 x 18	4.00 x 18	4.00 x 18	4.10 x 19
<b>ELECTRICAL</b>					
System Voltage	12	12	12	12	12
Generator Type			alternator		

\* Optional 5-speed gearbox available. Ratios: 1st—2.585; 2nd—1.837; 3rd—1.400; 4th—1.192; 5th—1.000.

Ⓛ 52 tooth standard; 49 tooth optional.

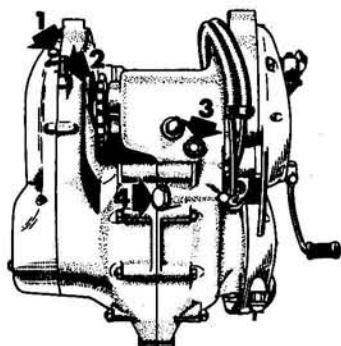
Ⓣ Amal 376/273 prior to serial no. H.57083; Amal 626/8 after serial no. H.57083.

Ⓣ Amal 376/324 and 325 before serial no. H.5708; Amal 626/9 and 10 after serial no. H.5708.



500 models

1. Primary chaincase level plug
2. Primary chaincase drain plug and chain tensioner adjustment
3. Gearbox drain and level plug
4. Sump drain and filter plug



650, 750 Twins

1. Primary chaincase level plug
2. Primary chaincase drain plug and chain tensioner adjustment
3. Gearbox drain and level plug
4. Sump drain and filter plug

flushing oil. If it is not available, use kerosine, but make sure all traces are removed before filling the tank with oil.

8. Fill the tank with the recommended lubricant. The correct level is 1½ in. below the filler cap. Do not exceed this level, as excessive venting will result.

9. Allow the engine to run for several minutes, and recheck the oil level, topping it up if necessary.

### TR7V, T140V

Note that the oil for these models is carried in the frame backbone. A filter is also fitted at the bottom of the frame oil reservoir.

1. When the engine is warm, remove the hex-head sump drain plug from beneath the engine. This plug houses the sump filter as well.

2. Allow the oil to drain from the sump for at least ten minutes. Clean the sump plug filter in a suitable solvent, check the condition of the gasket, then replace the filter and the drain plug.

3. Remove the oil reservoir filler cap. Remove the drain plug from the center of the base plate at the very bottom of the frame oil reservoir. Allow to drain for at least ten minutes.

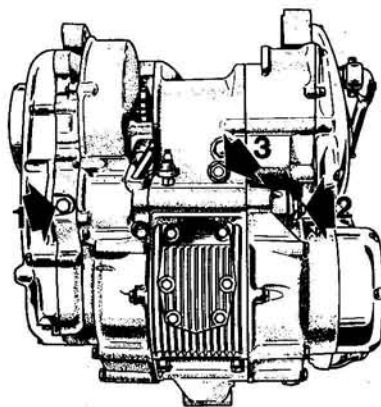
4. Remove the four nuts which secure the cover plate at the bottom of the reservoir, and remove the plate from the studs. Noting the location of the two gaskets (one above the filter base flange, and the other below), clean the filter in a suitable solvent.

5. Flushing the reservoir with kerosene is recommended.

6. The filter gaskets should be replaced. Refit the filter, cover plate, cover plate nuts, and drain plug. Fill the reservoir with the correct amount and recommended grade of oil. Check the oil level after the engine has been run for several miles.

### T150, T150V

1. When the engine is warm, remove the six nuts and lockwashers which secure the crankcase sump filter plate to the bottom of the crankcase. Carefully remove the plate. Allow the oil to drain for about ten minutes.



Trident

1. Primary chaincase drain plug
2. Oil filter housing cap
3. Gearbox drain and level plug

2. Clean the sump filter in a solvent. The gaskets on either side of the filter should be replaced upon reassembly. Replace the filter, noting that the pocketed end is towards the rear of the engine. Tighten the nuts gradually and evenly.

3. Remove the oil tank filler cap, and the right side-panel. Drain the oil from the oil tank, then remove the tank oil filter, and wash it in a solvent.

4. Flushing out the oil tank with kerosene is recommended.

5. Remove the cartridge-type main feed oil filter. This is located beneath the large cap nut just below the forward end of the gearbox outer cover. Note that the filter is pulled out with a pair of needle-nosed pliers. There is a spring immediately beneath the cap nut, and an O-ring on the end of the filter. The filter should be replaced every time the oil is changed.

6. When replacing the filter, be sure that the O-ring and the fiber washer are in good condition.

**CAUTION:** When the filter is refitted, be sure that the hole in the filter faces inward.

Refill the oil tank with the correct quantity and recommended grade of oil. Check the level with the dipstick after the engine has run for several miles.

### Gearbox

All gearbox components, including the shifter and kick-start mechanisms, are lubricated by oil splash. The oil should be changed at 500 miles in new or reconditioned engines, and at every recommended service interval thereafter.

**NOTE:** Drain oil when it is warm.

### TR25W

1. Remove the nylon filler plug and the dipstick from the top of the gearbox.

2. Remove the plug on the bottom of the gearbox and drain the oil.

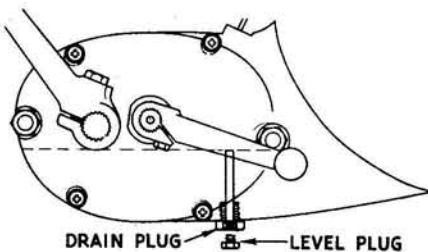
3. After draining, reinstall the plug, making sure that the sealing O-ring is in good condition.

4. Fill the gearbox with the recommended lubricant to the line marked on the dipstick.

### OTHER MODELS

1. Remove the transmission drain plug located at the bottom of the gearbox.

2. After letting the oil drain for about ten minutes, reinstall the drain plug, but without the level plug that normally screws into it.



DRAIN PLUG ← → LEVEL PLUG

Gearbox drain and level plug

3. Remove the gearbox oil filler plug on the case cover and add fresh oil until it flows out the level plug hole.

4. Reinstall the level plug.

### Primary Chaincase

Like the gearbox, the primary chaincase is lubricated by oil bath. On all models, the primary oil supply is contained within the case, where a collection chamber and a feed pipe provide direct lubrication to the primary chain and sprockets.

### TR25W

1. On early machines, two of the chaincase securing screws serve as drain and level plugs. On later bikes, a vertical drain plug is provided at the bottom of the case and the forwardmost of the lower chaincase securing screws serves as a level plug.

2. Remove the chain inspection cap on top of the chaincase.

3. Remove the drain plug or screw and level screw.

4. Let the oil drain for about ten minutes, then reinstall the drain plug or screw.

5. Pour the specified amount of the recommended lubricant into the chaincase through the chain inspection cap until it flows out the level screw hole.

6. Reinstall the level screw and chain inspection cap.

**NOTE:** Oil containing molybdenum disulphide or graphite, or oil additives, must not be used in the primary chaincase.

### TWINS

On models after about 1971, the primary chaincase oil is automatically supplied by oil forced through the drive side crankshaft bearing. The level is main-