

MOTORCYCLE SERVICE NEWS

NUMBER
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YAMAHA INTERNATIONAL CORPORATION
MONTEBELLO, CALIFORNIA

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'69 THRU '71 MODELS AUTOLUBE OUTPUT & COLOR CODE

This bulletin can be used to identify and troubleshoot Autolube pumps on all motorcycle models for the past three years.

COLOR CODES

Color codes have been included so that a mechanic can identify a pump installed on a machine or laying loose on a shelf.

OUTPUT

Often times a mechanic suspects that the Autolube Pump is supplying more or less oil than required, even after minimum and maximum pump stroke have been checked and cable adjustment has been set. Now, a mechanic can measure actual output. The amounts listed below are accurate. If output does not measure within tolerances listed, and all other standard adjustments have been checked, then the pump is defective and should be replaced.

NOTE: See Motorcycle Service News Bulletin #198A for color code identification on earlier models.

A. MATERIALS REQUIRED TO CHECK OUTPUT

Purchase a tube graduated in cubic centimeters (purchase from any laboratory equipment & supply house; check local listing in telephone yellow pages) and attach an Autolube delivery line to one end of the tube. Leave the banjo fitting on the other end of the delivery line to provide a universal adaptor for all models.

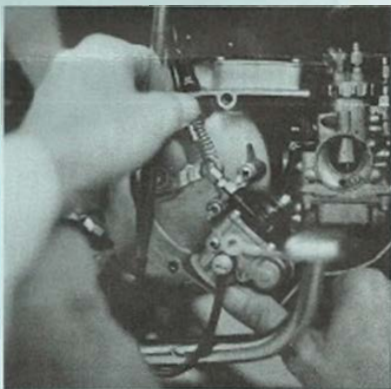
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B. PROCEDURE

Whether checking the pump on the machine, or in hand, the procedure would be virtually identical.

1. Disconnect original oil delivery line and attach graduated tube/delivery line unit to outlet hole.
2. Make sure oil tank has a sufficient oil supply to complete this procedure.
3. Determine if output check is to be done at minimum or maximum stroke, and set pump pulley in appropriate position. **IMPORTANT!** When checking at maximum stroke, rotate pump pulley so pulley ramp follows guide pin to maximum stroke position. **DO NOT** push pulley straight in by hand as this will cause the pump stroke to be greater than determined by factory.
4. Rotate pump plastic starter wheel 200 revolutions and compare measured output with specifications listed on page 2.
5. Pump output can be checked within 10-15 minutes. This is much more beneficial than just guessing that pump might be bad, replacing the pump, and running the engine again. It will prevent repeated engine damage (when machine is damaged again after replacing pump) and unnecessary time invested by customer and mechanic.



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C. WHAT IF OUTPUT IS CORRECT, AND PROBLEM CONTINUES?

Troubleshooting is a process of considering all possibilities, and eliminating them until the problem(s) is found. Such items and systems to be checked incl type of oil, rider habits, timing, piston clearance, and compression (not particularly in this order, nor only those items listed).

	MINIMUM STROKE; cc @ 200 STROKES*	MAXIMUM STROKE; cc @ 200 STROKES*	PUMP COLOR-CODE	**REDUCTION RATIOS
JT1	.50 - .63	4.65 - 5.15	White	30/19 x 62/1
G5S	.50 - .63	4.65 - 5.15	Light Blue	28/19 x 55/1
G6S	.50 - .63	4.65 - 5.15	Light Blue	28/19 x 55/1
G6SB	.50 - .63	4.65 - 5.15	Light Blue	28/19 x 55/1
HT1	.50 - .63	4.65 - 5.15	Red	28/19 x 55/1
HT1B	.50 - .63	4.65 - 5.15	Red	28/19 x 55/1
HS1	.50 - .63	4.20 - 4.80	Blue	32/19 x 62/1
HS1B	.50 - .63	4.20 - 4.80	Blue	34/19 x 62/1
YL1 (E)	.50 - .63	4.20 - 4.80	Yellow	N/A
L5T	.50 - .63	4.65 - 5.15	Green	N/A
L5TA	.50 - .63	4.65 - 5.15	Green	N/A
AT1	.50 - .63	8.80 - 9.76	Yellow	28/19 x 55/1
AT1B (MX)	.50 - .63	8.80 - 9.76	Yellow	28/19 x 55/1
AT1C	.50 - .63	8.80 - 9.76	Yellow	28/19 x 55/1
AS2C	.50 - .63	4.20 - 4.80	Brown	N/A
CT1	.50 - .63	8.80 - 9.76	Yellow	28/19 x 55/1
CT1B	.50 - .63	8.80 - 9.76	Yellow	28/19 x 55/1
CT1C	.50 - .63	8.80 - 9.76	Yellow	28/19 x 55/1
CS1C	.50 - .63	5.15 - 5.70	Dark Blue	20/16 x 55/1
CS3B	.50 - .63	5.15 - 5.70	Dark Blue	20/16 x 55/1
CS3C	.50 - .63	5.15 - 5.70	Dark Blue	20/16 x 55/1
DT1B	.95 - 1.19	8.80 - 9.76	Black	20/21 x 55/1
DT1C	.95 - 1.19	8.80 - 9.76	Black	20/21 x 55/1
DT1E	.95 - 1.19	8.80 - 9.76	Black	20/21 x 55/1
DS6B	.50 - .63	5.15 - 5.70	Purple	N/A
DS6C	.50 - .63	5.15 - 5.70	Purple	N/A
R2/R2C	.50 - .63	5.15 - 5.70	Green	N/A
R3	.50 - .63	5.15 - 5.70	Green	N/A
R5	.50 - .63	5.15 - 5.70	Red	21/23 x 32/1
R5B	.50 - .63	5.15 - 5.70	Red	21/23 x 32/1
RT1 (Old)	1.19 - 1.44	9.10 - 10.05	Green	N/A
RT1 (New)	.95 - 1.19	8.80 - 9.70	Green	20/21 x 55/1
RT1B	.95 - 1.19	8.80 - 9.70	Green	20/21 x 55/1

*STROKES: 1 pumping stroke occurs for each pump revolution. This is true even for twin cylinder models, as there is only 1 pump stroke for each cylinder per revolution. The quantity is measured only out of one oil delivery line at a time.

**Pump drive gear/primary drive gear x worm wheel/worm shaft.

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