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1318 TACHOGRAPH DIPSWITCH SETTINGS

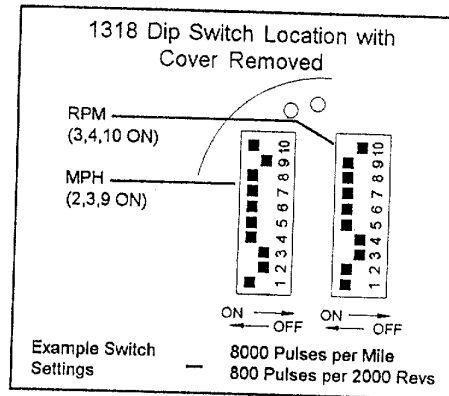
**FOR USE WITH
PULSE DIVIDER
DIVIDE BY 4**

SWITCH SETTINGS FOR MODEL 1318 TACHOGRAPH

MPH / KPH CONVERSION

Example: vehicle would have following:
 Tire revolutions per mile = 502
 Teeth sensed = 16
 Rear end ratio = 4.11
 $502 \times 16 \times 4.11 = 33011.52$ pulses p/m
 Convert to pulses per kilometer
 $33011.52 \times 0.621371192 = 20,512.40$ pulses P/K

Since MPH and KPH are related we can convert from one value to another:
 To convert MPH to KPH multiply MPH by 1.609344
 To convert KPH to MPH multiply KPH by .621371192



IMPORTANT CALIBRATION INFORMATION !!!

The standard VDO pulse divider amplifies the signal from a magnetic sensor or sending unit, then divides the amount of pulses it receives by "4". The switch setting charts will show the correct switch setting for pulse values above 24,659. Note that this is indicated by a "Y" in the column labeled "Pulse divider installed" in the switch setting tables. Below this pulse count value the pulse divider may be used but you will have to divide any pulse count value you calculate by "4" and look up this value in the tables to find the switch settings. If you have a KPH instrument you will have to convert the pulse value that you calculate to pulses per kilometer by dividing your final result by 1.6093. This is the correction factor to convert from pulses per mile to pulses per kilometer.

Basic formula:

Tire Revolutions per Mile X Number of Teeth X Rear End Ratio = Pulses per Mile

Example: 499 Tire Revs.
 16 Teeth
 4.10 RER

$499 \times 16 \times 4.10 = 32,734.40$ rounded to closest = 32,734 pulses/mile

Since the value is above 24,659, find the closest value in the tables. In this case it is 32,880 with a switch setting of 1,2,3,4,5,6,7,8 ON and 9 OFF.

If the tachograph is a KPH instrument the same formula would apply except that the final result would be divided by 1.6093 if the tire revolutions are specified in revolutions per mile. If your tire revolutions are specified in revolutions per kilometer then do not divide the final result by 1.6093.

Example: 499 Tire Revs. per Mile
 16 Teeth
 4.10 RER
 $499 \times 16 \times 4.10 = 32,734.40$
 $32,734.4$ divided by 1.6093 = 20,340.7 pulses per kilometer

If using a standard divide by "4" pulse divider:
 $20,341$ (rounded) divided by 4 = 5,085.25 (rounded to 5,085)

Note that the column labeled "Pulses per Mile" in the switch setting tables is read to be "Pulses per Kilometer" in the case of its use with KPH instruments.

Using the charts find the closest value. In this case it is 5,087 with a switch setting of: 3,4,5,8,9 "ON" and 1, 2, 6, 7, 10 "OFF".

OTHER DIVISIONS RATIOS

VDO can supply on request division ratios of 1,2,6,8,10 in addition to the standard divide by "4".

IMPORTANT MOUNTING INFORMATION

The VDO pulse dividers contain a high sensitivity amplifier to deal with the low signal levels that are generated by magnetic sensors (the lowest being at low vehicle speed). This makes it necessary to take care to ensure that the pulse divider boxes are placed away from devices such as buzzers, blower motors and other electromechanical devices that may induce electrical noise and interfere with proper operation.

SWITCH SETTINGS

To set the switches for the model 1318 tachograph you must determine the number of pulses being sent to the unit from the sensing device.

To do this you must:

- Determine the type and location of the sensing device
- Use the applicable formula to determine the number of pulses
- Set tachograph switches according to the table

Sending Units (Type 2155, 2157, 2159)

MPH

Sending unit located at transmission cable outlet:

$$\frac{\text{Transmission Driver Gear}}{\text{Transmission Driving Gear}} \times \text{Rear End Ratio} \times \text{Tire Revs/Mile} \times 8 = \text{Pulses/Mile}$$

Example $6/16 \times 3.75 \times 501 \times 8 = 5636$ Pulses/Mile

RPM

Set Tachograph Switches for 4000 Pulses/Minute

Magnetic Sensors (All Types)

MPH

Sensor Located at Transmission:

$$\text{Number of teeth sensed} \times \text{Rear End Ratio} \times \text{Tire Revs/Mile} = \text{Pulses/Mile}$$

EXAMPLE: $16 \times 3.75 \times 501 = 30,060$ PULSES/MILE

Sensor Located on Wheel:

$$\text{Number of teeth sensed} \times \text{Tire Revs/Mile} = \text{Pulses/Mile}$$

EXAMPLE: $120 \times 501 = 60,120$ PULSES/MILE

RPM

Sensor Located on Bell Housing:

$$\text{Number of teeth sensed} \times 2000 = \text{Pulses/Minute}$$

EXAMPLE: $113 \times 2000 = 226,000$ PULSES/MINUTE

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PULSES PER MILE	1	2	3	4	5	6	7	8	9	10	PULSE DIVIDER INSTALLED
101,016	1	2	--	--	5	--	7	--	--	--	Y
102,240	--	2	--	--	5	--	7	--	--	--	Y
103,504	1	--	--	--	5	--	7	--	--	--	Y
104,800	--	--	--	--	5	--	7	--	--	--	Y
106,128	1	2	3	4	--	--	7	--	--	--	Y
107,488	--	2	3	4	--	--	7	--	--	--	Y
108,880	1	--	3	4	--	--	7	--	--	--	Y
110,312	--	--	3	4	--	--	7	--	--	--	Y
111,784	1	2	--	4	--	--	7	--	--	--	Y
113,296	--	2	--	4	--	--	7	--	--	--	Y
114,848	1	--	--	4	--	--	7	--	--	--	Y
116,448	--	--	--	4	--	--	7	--	--	--	Y
118,088	1	2	3	--	--	--	7	--	--	--	Y
119,768	--	2	3	--	--	--	7	--	--	--	Y
121,504	1	--	3	--	--	--	7	--	--	--	Y
123,296	--	--	3	--	--	--	7	--	--	--	Y
125,136	1	2	--	--	--	--	7	--	--	--	Y
127,032	--	2	--	--	--	--	7	--	--	--	Y
128,984	1	--	--	--	--	--	7	--	--	--	Y

PULSES PER MILE	1	2	3	4	5	6	7	8	9	10	PULSE DIVIDER INSTALLED
131,000	--	--	--	--	--	--	7	--	--	--	Y
133,080	1	2	3	4	5	6	--	--	--	--	Y
135,224	--	2	3	4	5	6	--	--	--	--	Y
137,440	1	--	3	4	5	6	--	--	--	--	Y
139,736	--	--	3	4	5	6	--	--	--	--	Y
142,104	1	2	--	4	5	6	--	--	--	--	Y
144,552	--	2	--	4	5	6	--	--	--	--	Y
147,088	1	--	--	4	5	6	--	--	--	--	Y
149,712	--	--	--	4	5	6	--	--	--	--	Y

(-- DENOTES *OFF*)

