

Subject: Troubleshooting Guide for External Trip Odometers	Initial Release Date: 07/01/97	Revision Date: 03/25/99	Revision: A
	Product Group: Heavy Duty Instruments		

1. Purpose and Scope

This document provides technical information to assist in troubleshooting AMETEK Dixson external trip odometers. The procedure will help you determine whether the fault lies inside or outside the trip odometer. By insuring that the failure does indeed lie within the unit, unnecessary costs and time delays caused by returning good material to the factory for warranty consideration or repair can be eliminated.

2. Materials and Tools Required

You will need a voltmeter capable of reading 12 volts DC.

3. Procedure (Refer to Figure 1)

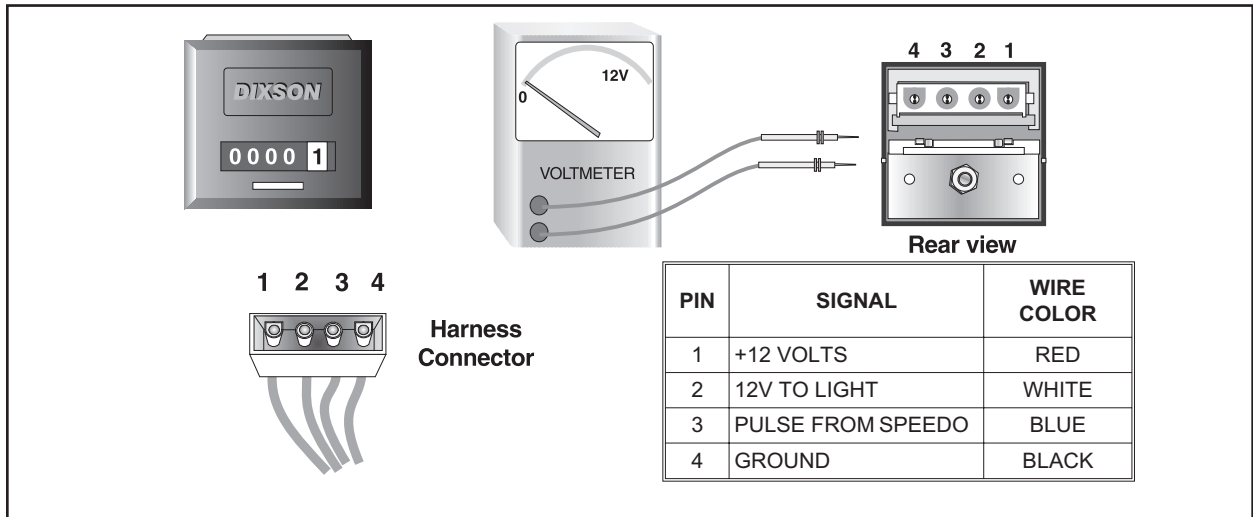


Figure 1 External trip odometer, voltmeter, and connector pinouts

Problem 1: Trip odometer light does not illuminate (rest of gauges light okay).

STEP	RESULTS	NEXT ACTION
1. Unplug connector, turn lights on, vary dash dimmer while measuring voltage between pins 2 and 4.	Voltage varies as dimmer changed. 0 volts as measured.	Voltage okay, bulb burned out. Replace trip odometer. Bulb is not replaceable. Go to Step 2.
2. Move probe from pin 4 to a good vehicle ground and repeat Step 1.	Voltage varies as dimmer changed. 0 volts as measured.	Probable open between pin 4 and ground in wire harness. Locate and fix. Probable open between pin 2 and 12 volt source (wire, crimp) in wire harness. Locate and fix.

Problem 2: Trip odometer does not work (lights up okay though).

STEP	RESULTS	NEXT ACTION
1. Unplug connector, turn ignition on and measure supply voltage between harness connector pins 1 and 4.	12 volts measured	Go to Step 3 (signal check).
	0 volts measured	Go to Step 2.
2. With connector unplugged and ignition on, measure between harness connector pin 1 and a good vehicle ground.	12 volts measured	Probable open between pin 4 and ground in wire harness. Locate and fix.
	0 volts measured	Probable open between pin 1 and 12V source (fuse, wire, connector) in wire harness. Locate and fix.
3. With connector unplugged and ignition on, measure voltage between harness connector pins 3 and 4.	12 volts measured	Go to Step 5 (bad tripodo or speedo).
	0 volts measured	Go to Step 4 (bad speedometer or wire).
4. Disconnect wire from stud at back of speedometer and measure voltage between stud and a good vehicle ground.	12 volts measured	Probable open or grounded wire from speedometer stud to tripodo pin 3 in wire harness. Locate and fix.
	0 volts measured	Step 6 (replace speedometer).
5. Either the tripodo or the speedometer could be bad. Replace the tripodo and road-test vehicle.	Tripodo works	Done!
	Problem still there!	Go to Step 6.
6. Reinstall original trip odometer (if removed), replace speedometer, and road-test vehicle.	Tripodo works	Done!
	Problem still there!	Call AMETEK/Dixson Service.

Additional troubleshooting tips:

1. When resetting the trip odometer, be sure to fully depress the Reset button (multiple times if necessary) so that all zeros are showing in the window and that they are all aligned. Otherwise, the odometer could stick during operation.
2. Newer trip odometers advance every mile instead of every 1/10th mile, and do not have a white 1/10th wheel like the older models.
3. Each time the ignition is turned off, the trip odometer can fall slightly behind in accumulated mileage when compared to the speedometer's odometer. The loss can be anywhere from 1/10th to 9/10th of a mile every time the ignition is turned off. ***This is not a defective trip odometer, and the trip odometer should not be replaced for this reason.***

4. For Additional Support...

Troubleshooting assistance is available from our Heavy Duty Service Department Monday through Thursday (7 a.m. to 5:30 p.m.) and Friday (7 a.m. to 3:30 p.m.), MT, at (970) 244-1243 or (800) 205-7710.