

3-3/8" TACHOMETERS

INSTALLATION INSTRUCTIONS

GENERAL INFORMATION

These tachometers are designed for 12-volt negative (-) ground 4-cycle engines. As sold they are compatible with most distributor and distributorless ignition systems.

HARDWARE KIT CONTENTS

Dash Mount Bracket.....	1 ea
Column Mount Bracket.....	1 ea
Chrome Cup.....	1 ea
Adjustable Clamp.....	1 ea
Installation Kit	1 ea

CAUTION

Please read this instruction manual and review the installation procedures carefully before attempting the installation of your tachometer.

SAFETY GUIDELINES

To prevent accidents that could result in serious injury and/or damage to your vehicle or tachometer, carefully follow these safety rules and test procedures.

- Wear safety goggles when working on your vehicle.
- Always operate vehicle in a well-ventilated area. If vehicle is in an enclosed area, exhaust should be routed directly to the outside via leakproof exhaust hose.
- Make sure that your vehicle is in Park or Neutral, and that the parking brake is firmly set.
- Avoid contact with hot surfaces such as exhaust manifolds and pipes, mufflers (catalytic converters), radiator and hoses.

FUNCTIONAL QUICK CHECK

It is suggested that the tachometer be electrically connected to the vehicle, (using alligator clip leads or other suitable means) following the steps below, and an electrical functional check of the tachometer be made, prior to making a permanent installation.

Start the vehicle's engine. Confirm the operation of the tachometer. Disconnect the tachometer.

INSTALLING MOUNT BRACKET

Your tachometer is designed to be mounted on any flat or curved surface, or on the steering column using the clamp kit.

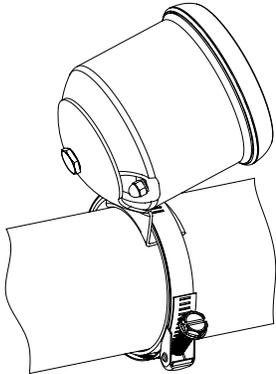
Steering Column Mounting

1. Assemble steering column bracket (5) and cup (1) using male nut (3) and female nut (2). Tighten male nut only enough to still allow cup to be positioned to proper angle.
2. Wrap rubber strip (9) around steering column.
3. Place assembled cup and column bracket on rubber strip and secure to steering column with adjustable clamp (8).

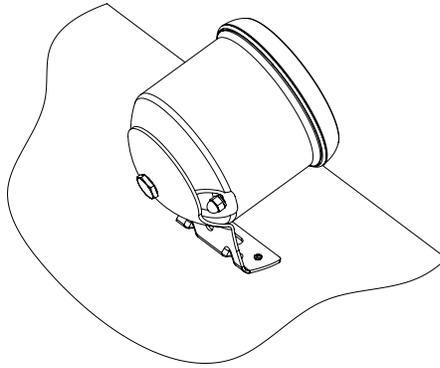
Instrument Panel Mounting

1. Select best possible mounting location for good visibility from a normal driving position.
2. Mounting bracket (4) can be used for a marking or drill template.
3. Drill two 3/16" holes for #8 screws, lock washer and nuts or two 5/32" holes for #8 self-tapping screws.

STEERING COLUMN MOUNTING

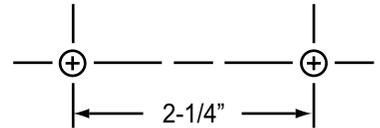


INSTRUMENT PANEL MOUNTING

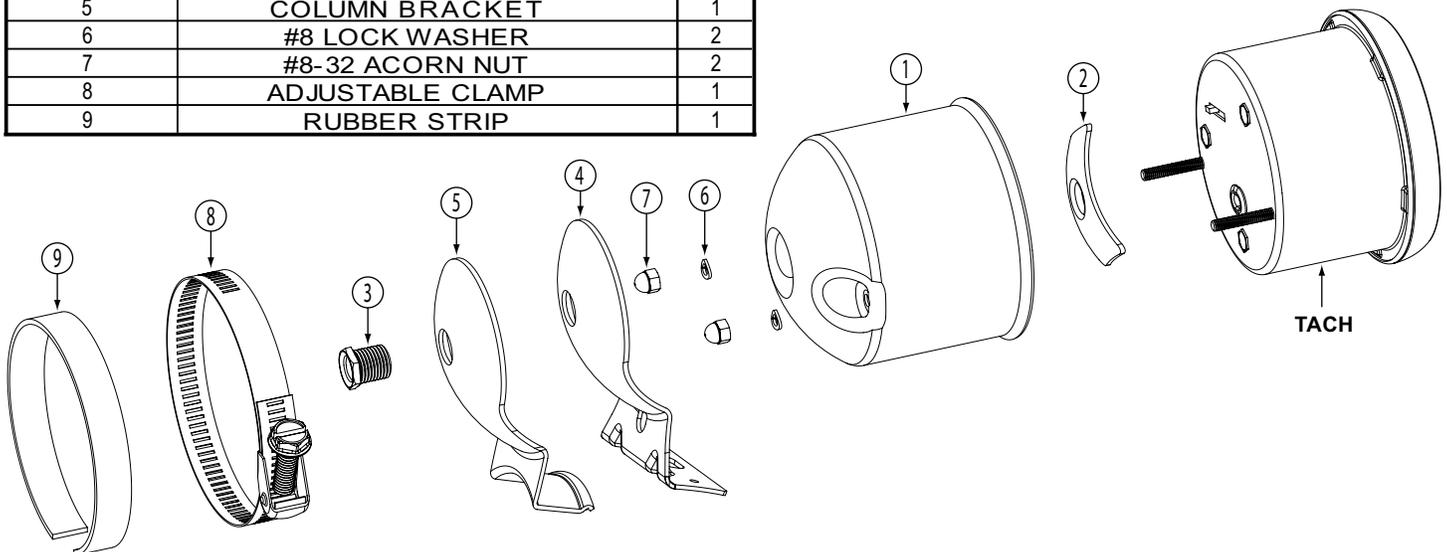


PANEL LAYOUT

This picture is not to scale!



ITEM NO.	DESCRIPTION	QTY.
1	CUP	1
2	FEMALE NUT	1
3	MALE NUT	1
4	MOUNTING BRACKET	1
5	COLUMN BRACKET	1
6	#8 LOCK WASHER	2
7	#8-32 ACORN NUT	2
8	ADJUSTABLE CLAMP	1
9	RUBBER STRIP	1





ELECTRICAL CONNECTIONS

CAUTION

For your own personal safety, and to prevent possible damage to the electrical system of your vehicle during the installation, disconnect the negative (-) battery cable. Reconnect this cable after installation is complete. Do not route wires along or against sharp edges, hot engine surfaces, or near spark plug wires. If needed, drill a 3/8" hole in the firewall for the grommet (included).

1. Attach wires to tachometer as required.

NOTE: Use # 18 or # 20 AWG stranded automotive primary wire.

2. Thread wires through female nut (2), cup (1), bracket (4 or 5) and male nut (3). Note: At this point, items 1, 2, 3 and 4 or 5 should have been preassembled.
3. Leave tachometer out of the cup for now.

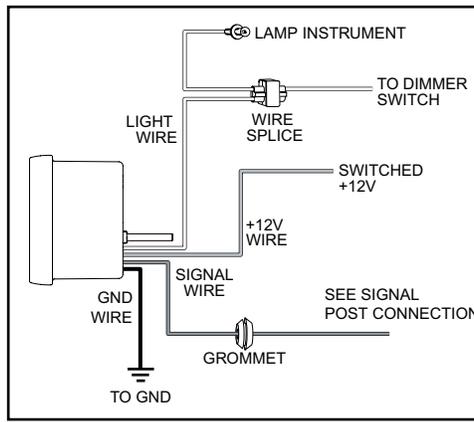
SIGNAL POST CONNECTION AND CYLINDER SELECTION

The Cylinder Selector Switch is located on the back of the tachometer. The factory setting is 8-cylinders. Change the setting if necessary.

The 4, 6, 8, and 10-cylinder settings are most common for all distributor equipped engines and Distributorless Ignition Systems (DIS) with a tachometer output lead.

The 2-cylinder setting is designed for 2-cylinder engines and DIS systems without a tachometer output lead that allow access to the driver wires from the vehicle computer to the ignition module.

The 1-cylinder setting is used with single cylinder engine vehicles.



DISTRIBUTOR EQUIPPED ENGINES

Connect the SIGNAL tachometer post to the negative (-) side of the ignition coil. This terminal may be referred to as the TACH, TACH TEST, DEC, or ECU terminal.

Set the Cylinder Selection switch on the back of the tachometer to match the number of cylinders in the engine.

DISTRIBUTORLESS IGNITION SYSTEM EQUIPPED ENGINES WITH A TACHOMETER OUTPUT LEAD

Connect the SIGNAL tachometer post to the vehicle's tachometer output lead.

Set the Cylinder Selection switch on the back of the tachometer to match the number of cylinders in the engine.

DISTRIBUTORLESS IGNITION SYSTEM EQUIPPED ENGINES WITHOUT A TACHOMETER OUTPUT LEAD

If your vehicle's DIS ignition system does not have a tachometer output lead but allows access to the driver wires from the vehicle computer to the ignition module, connect the SIGNAL tachometer post to one of the driver wires.

Set the Cylinder Selection switch on the back of the tachometer to the 2-cylinder position regardless of the number of cylinders in the engine.

MULTIPLE SPARK DISCHARGE IGNITION SYSTEM EQUIPPED ENGINES

For Multiple Spark Discharge ignition systems, connect the SIGNAL tachometer post only to the tachometer output terminal on the ignition module. Do NOT connect to the ignition coil.

Set the Cylinder Selection switch on the back of the tachometer to match the number of cylinders in the engine.

-12V DC GROUND, +12V DC POWER, AND 12V DC LAMP POST CONNECTIONS

ALL VEHICLE SYSTEMS

1. Connect the post labeled **-12V DC GROUND** to the negative (-) battery terminal, or a clean unpainted chassis ground using a ring terminal or other suitable means.
2. Connect the post labeled **+12V DC POWER** to any vehicle harness wire which is energized with battery voltage, ONLY when the ignition key is in the ON (RUN) position, NOT OFF OR ACCESSORIES.
3. Connect the post labeled **12V DC LAMP** to the instrument panel lighting circuit that is controlled by the instrument panel dimmer control.

Some vehicles (typically imported) wire the dimmer control into the ground side of the instrument panel lighting circuit, as opposed to the more conventional "hot" or 12-volt side. In vehicles which use this circuit, connect the **12V DC LAMP** post to a circuit which is energized by the headlamp switch.

INSTALLING TACHOMETER IN CUP

1. Place tachometer in cup. Gently pull wires out, so they would not be jammed between the cup and tachometer.
2. Secure tachometer in cup using #8 lock washers (6) and #8-32 acorn nuts (7). Turn acorn nuts down finger-tight and, with a wrench or nut driver, tighten an additional 1/2 turn. DO NOT OVER TIGHTEN.
3. Position cup as desired and tighten male nut (3).

FULL ONE (1) YEAR WARRANTY

Bosch Automotive Service Solutions, 3000 Apollo Drive, Brook Park, Ohio, 44142, warrants to the user that this unit will be free from defects in materials and workmanship for a period of one (1) year from the date of original purchase.

Any unit that fails within this period will be repaired or replaced at Bosch's option and without charge when returned to the Factory. Bosch requests that a copy of the original, dated sales receipt be returned with the unit to determine if the warranty period is still in effect.

This warranty does not apply to damages caused by accident, alterations, or improper or unreasonable use. Expendable items, such as batteries, fuses, lamp bulbs, flash tubes are also excluded from this warranty.

BOSCH AUTOMOTIVE SERVICE SOLUTIONS DISCLAIMS ANY LIABILITY FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES FOR BREACH OF ANY WRITTEN WARRANTY ON THE UNIT. Some states do not allow the disclaimer of liability for incidental or consequential damages, so the above disclaimer may or may not apply to you. This warranty gives specific legal rights, and you may also have rights, which vary from state to state.